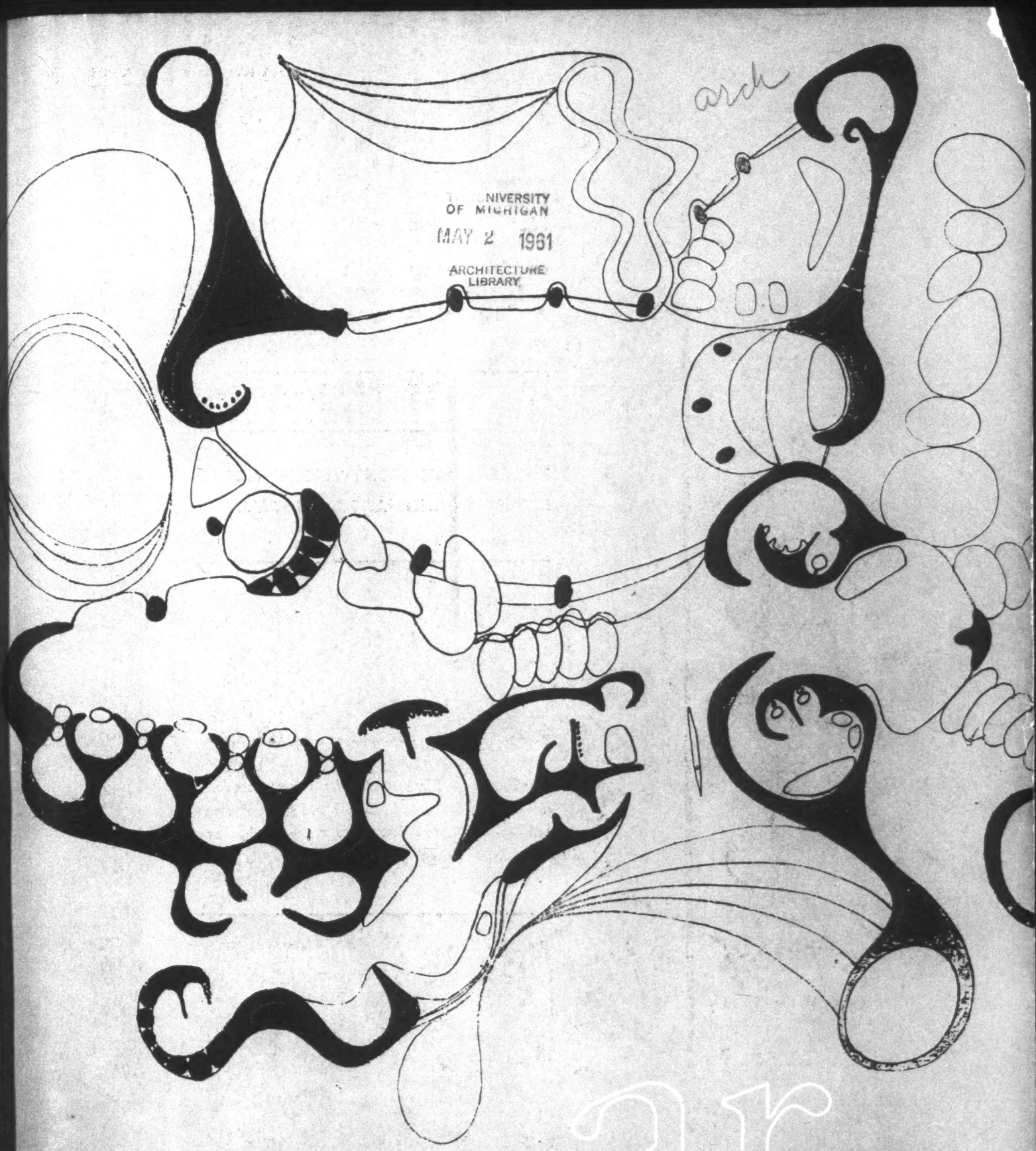

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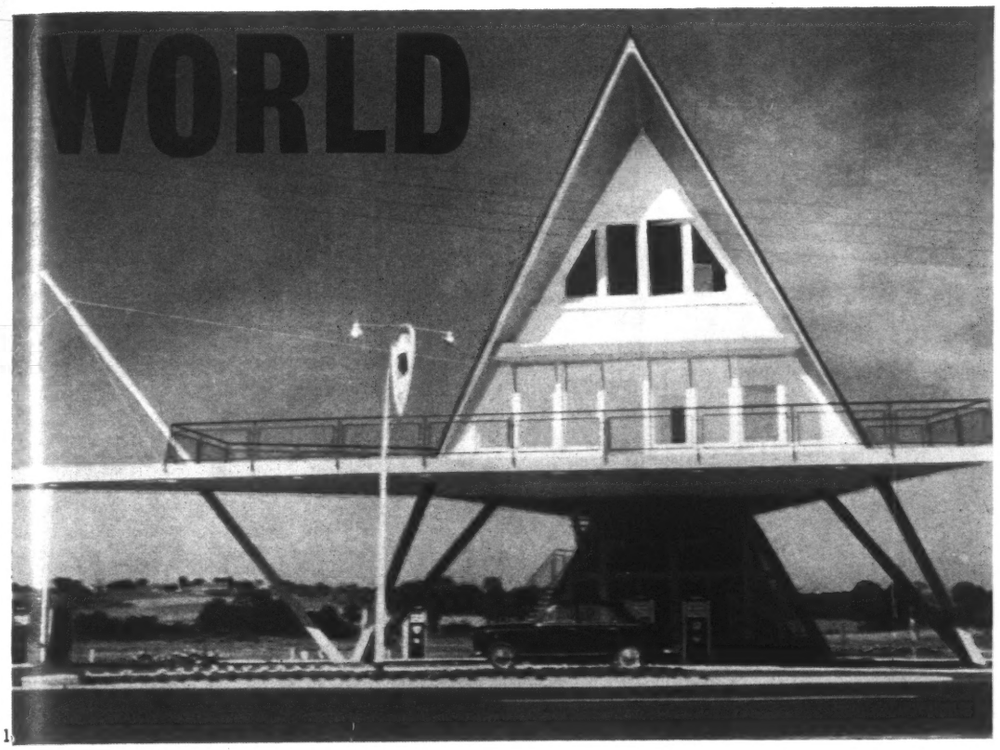


1

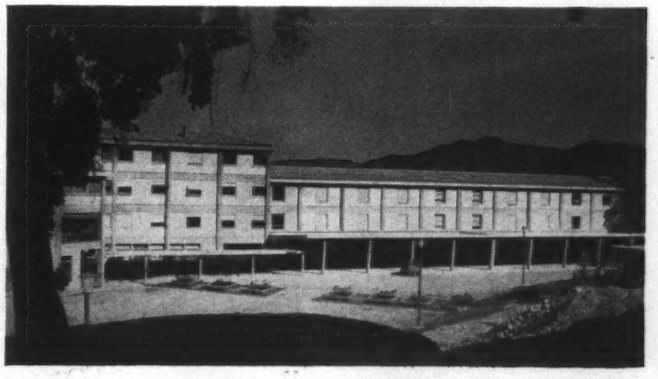
GARAGES DE FRANCE

L'Architecture Francaise has recently made a massive survey of 'Automobile et Architecture' (November-December, 1960) covering examples of service stations and garages, etc., in many countries. As far as non-French readers are concerned, it is the French examples that are of the greatest interest, obviously, and the issue gets away to an astonishing start with the *Purfina* station, 1, at Auray, designed by A. F. Landelle. However, this should not necessarily be regarded as a norm, or a fair example of what can be talked past French town-planning authorities—a closely worded competition organized by the municipality of Fontainebleau produced the admirably planned and landscaped *Station Service de la Fourche*, 2, by Denys Hay. Located between two divergent roads at the entry into Fontainebleau from the direction of Paris, it presents to the eye of the approaching motorist little more than the slim edge of a canopy and lettering (which identifies the place, not the product) reflected in a still pool between the trees, 3—it is to be doubted if any architect could have produced a solution that dealt effectively with the block of flats in the background!

2

3

An off-beat contribution to automobile architecture is provided by the apprentice school for the car-body industry, 4, at Tournon—off-beat in its function, off-beat in the style of its buildings, designed by Cacoub, Frappa, Begou and Sillon, looking almost Swiss-Italian with their flat-faced façades and shuttered windows, though this impression is belied by the detail when it is seen close to, 5.



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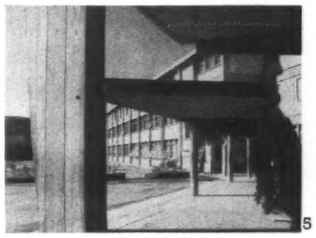
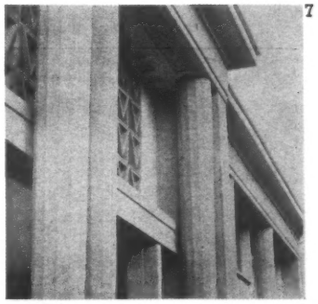


5

Equally off-beat in this sort of company is the unashamed Perret-style monumentalism of Valentin Vigneron's garage at Clermont-Ferrand, 6, but this may be explained, if not excused, by the fact that this is a bus-station, and thus a public building, while its location on the Place des Salins requires its detailing, 7, to harmonize with other public buildings in the same manner.

6



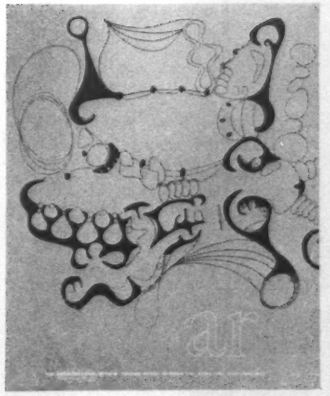
7

The French contribution to the multi-storey garage problem is of variable interest—that in the Marché Saint-Honoré, Paris, 8, makes neat

8

ACKNOWLEDGMENTS

WORLD, pages 221–224: 1–10, *L'Architecture Francaise*; 13–17, *Bauen + Wohnen*; 18–20, Aldo Ballo; 21, Publifoto; 22–27, *Architecture and Design*; 28–31, *Bouw*. VIEWS AND REVIEWS, pages 225–227: 1–4, LCC; 5, 6, Cape Asbestos Co.; 7, MOW. FRONTISPIECE, page 228: Wolfe Arphot. THE BRIDGE-HEAD PRINCIPLE, pages 229–235: Wolfe Arphot; 9, J. Hardman. OFFICE BUILDING, HOLBORN, LONDON, pages 236–239: Toomey Arphot. AMANCIO GUEDES, pages 240–251: Julian Beinart; 18, 22, Sodré da Silva. US EMBASSY BUILDING, GROSVENOR SQUARE, LONDON, pages 252–258: page 252 & 5, 6, Galwey Arphot; 3, 4, Toomey Arphot. ID, pages 259–265: Galwey Arphot. ST. JOHN'S CHURCH, SMITH SQUARE, WESTMINSTER, pages 266–271: page 266, Toomey Arphot; 1, LCC; CURRENT ARCHITECTURE, pages 272–277: 1–7, Henk Snoek; 8, 10, The Kynoch Press; 9, *Birmingham Post* Studios; 11, 12, GEC. MISCELLANY, pages 278–283: Exhibitions, 7, Marc Vaux; 8, Sydney W. Newbery. Credit, 1, Leslie Stuart. THE INDUSTRY, pages 285–290: 5, Stewart Bale; 6, Toomey Arphot.



The cover *shows the plan of the public rooms of a hotel near Lourenco Marques, designed by Amancio Guedes, an architectural 'original' whom the world has so far failed to discover. The hotel was not built, but most of Guedes's extraordinary inventions are practical and constructible, and get built, in spite of their originality and the limited building techniques of Portuguese East Africa. For proof, see the illustrations on pages 240–251, which constitute the first publication of Guedes's work outside Africa.*

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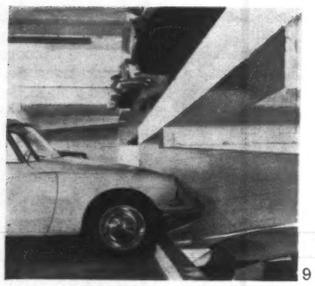
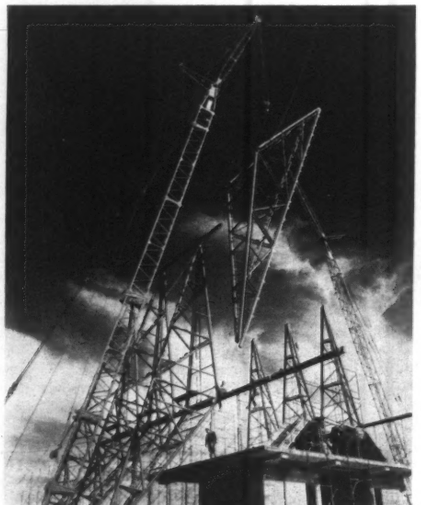


9

Garages de France

use of split-levelling to tuck Citroens and Dauphines neatly nose under tail, 9, but by far the most remarkable piece of architectural invention in the whole issue is the project for a garage with external mechanical lifting, 10, which really needs no comment here except to say that the name of its designer is Vo Toan, who also figures extensively in this issue as a reviver of the radial approach to town planning.

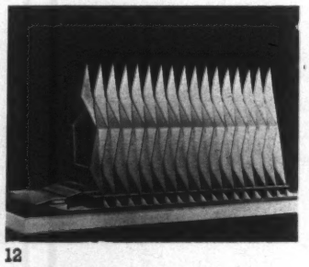
10



11

GOTHIC TETRA-HEDRA

After all the obstructive nonsense that was talked by intereestd pressure-groups, from Frank Lloyd Wright to the Stonemasons, it is encouraging to be able to report that Skidmore, Owings and Merrill's chapel at the US Air Force Academy (*World*, January, 1960) is actually going up at last, 11. Its multi-spired, multifaceted form, 12, will be the only consequential break in the rectangular regularity of the scheme, and—like the surrounding mountains—is intended to form a foil to the strict rationality of the main layout. Not that there is anything conspicuously irrational about the chapel—as much of the structure as is already in place shows a straight-forward assembly of structural tetra-hedra, laid alternatively apex-in, apex-out. What will certainly be crucial to this scheme, and stretch to the utmost the design resources of an office not strong on fantasy (though almost omnicompetent in all other fields), will be the relationship of this structure, when clad, to the space it contains. The completed building will be viewed with the greatest interest.



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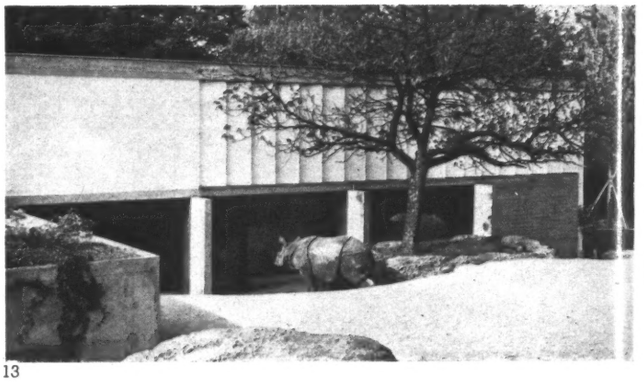


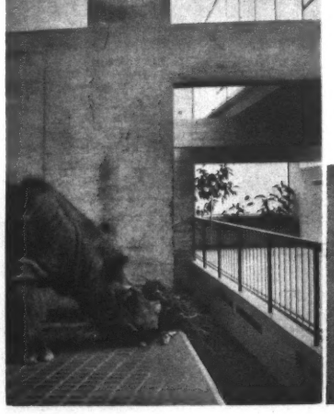
13

RHINO HOUSE

new work at Basel Zoo

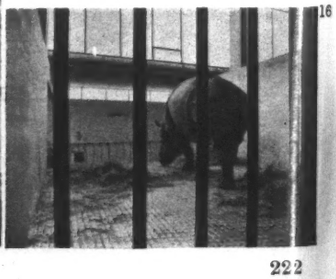
The recent announcement of reconstruction work at the London Zoo (AR December 1960) adds interest to any examples of comparable work from abroad—and the new rhinoceros house at the Basel zoo is directly comparable. The houses proper are set at a rather lower level, 13, than the paddocks in front of them, and their interiors, which follow the now more or less classic section for animal houses of this kind, with a security ditch between the public gallery and

14



15

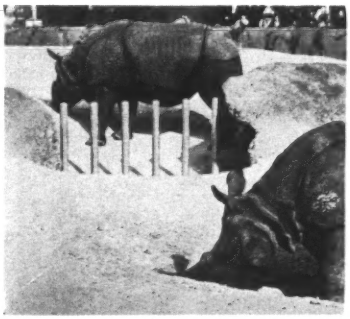
the display stalls, are in a straightforward unfussy style, 14,15, with tidily shutter-patterned exposed concrete structure. What these photographs do not reveal, however, is that the architects, Max Rasser and Tibère Vadi, have planned the whole structure not on the right angle but with the stalls at an angle of 70° to the ditch, 16, which may account, in



16

Rhino house

conjunction with the many levels of public viewing space, for the uncommonly spacious air of what is not really a very large building. Externally, the treatment of the paddock is more obviously in character with its inhabitants, with rough rock work, pools, and a steel 'tank-trap' post-fence with gaps large enough to pass a keeper, 17, but not a charging rhino.



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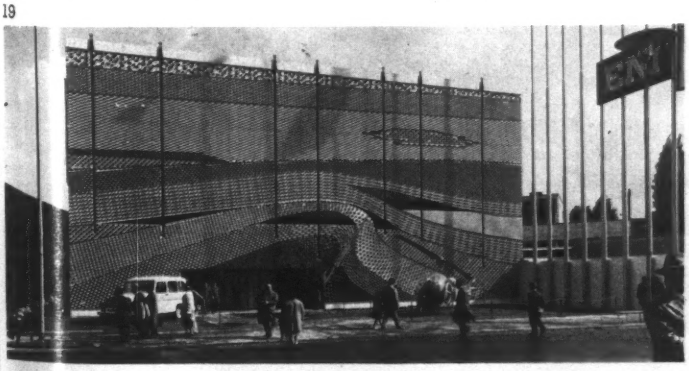
18

AGIP PAVILIONS

Readers of Reyner Banham's critique of the Pirelli buildings in the March AR may have wondered what has happened to Leonardo Sinisgalli since his demission from the editor's chair at *Civilta delle Macchine*. He has, for some time, been responsible for the public face of an organization whose name will be familiar to all who have set eyes on the Italian scene: AGIP, the Italian government's oil company. This organization disposes of permanent installations for the trade fairs at Milan and elsewhere, and among the problems with which Sinisgalli is now presented is organizing an annual face-lift for these buildings. The detail in 18 is part of the façade of the AGIP pavilion at Milan as it was in 1960, a relief map —with its conventional signs also in 3D—of the oil-borings carried out in the Po valley. 20 and 19 contrast this design, by Errico Ascione, with the same architect's treatment of the pavilion in 1959, which handled the same theme in section, not plan. The representation of an organization such as AGIP also involves the presentation of the theme of social betterment; oil and natural gas are two of the chief hopes of the depressed areas of the South and Sardinia, and in 21—the Natural Gas exhibition in Piacenza in 1959, also designed by Ascione—sharp-memoried readers will identify a familiar plan-detail of the *Sassi* in Matera, a place whose character and problems have always been close to Sinisgalli's heart.

19



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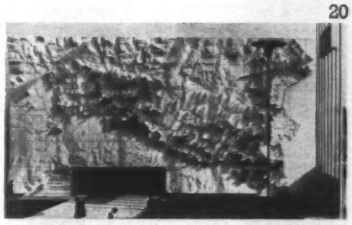

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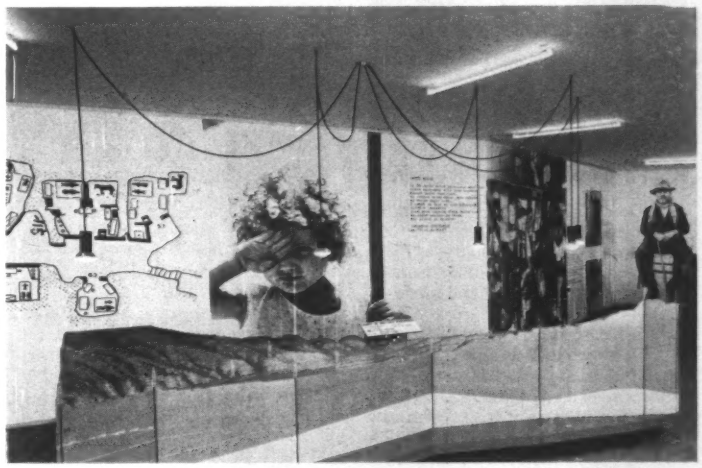

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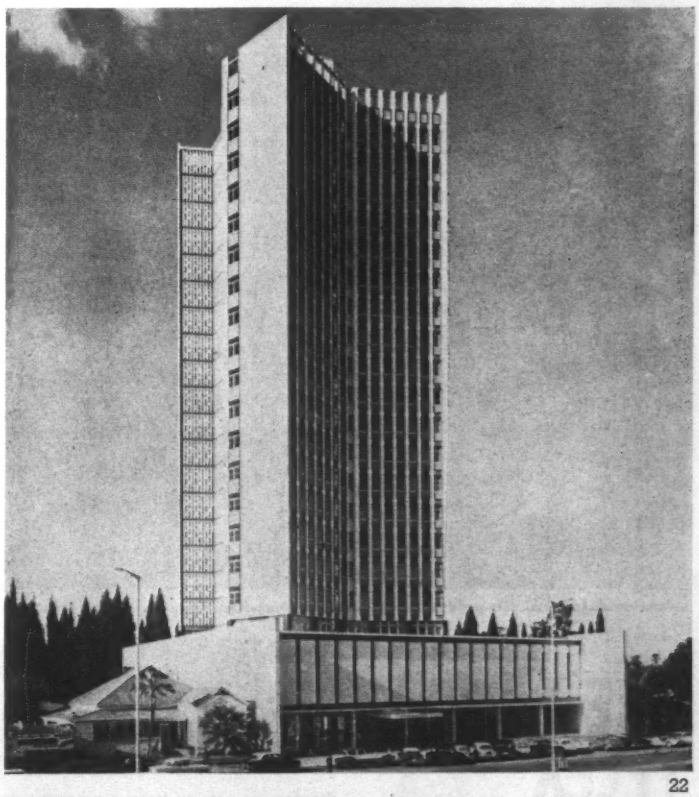
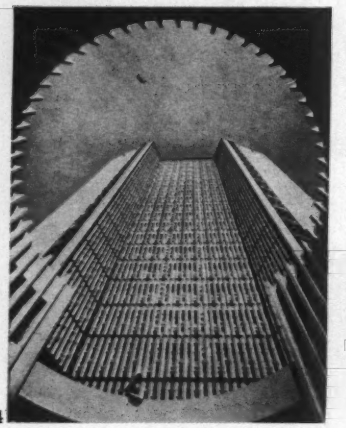


LIVINGSTONE HOUSE

Last of the line in Salisbury?

The tallest building in Salisbury, thus the tallest in the Rhodesias and probably the whole of central Africa, was previewed in the AR for February, 1958, when the model was first published. Now that this 22-storey split-plan tower, 22, by the local architects D'Arcy Cathcart and Son, Creasy and Fothergill, in collaboration

Livingstone House



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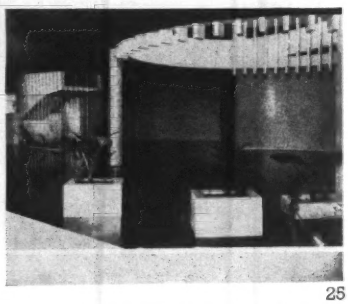

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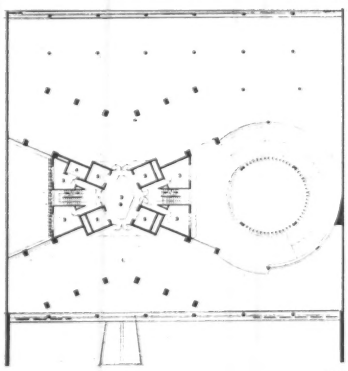
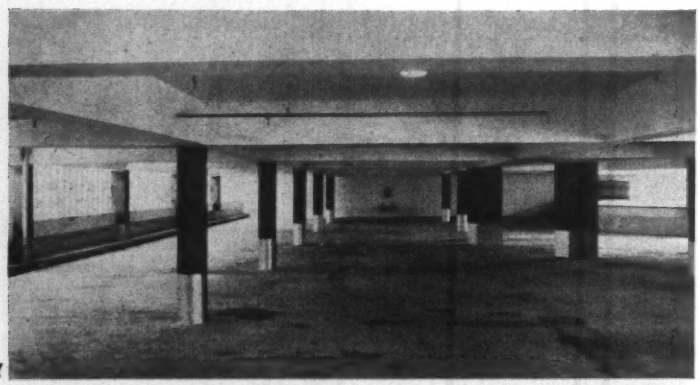


26

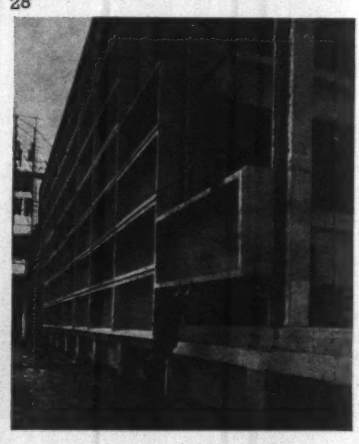
with Dennis Lennon, of London, is completed, it looks like being the last of its kind in central Salisbury, as there is a temporary halt in investment in buildings of this kind, and there is talk of revision of that part of the town plan. However, the illustrations in *Architecture and Design* (12, 1960), suggest that the line has come to a handsome end, and that Livingstone House can face comparison with any of its predecessors and neighbours, 23. Two aspects of the building that could not be fully appreciated from the photographs of the model are the circular court at ground-floor level and the sun-breaker screen covering the service and circulation areas—both are seen simultaneously in 24, and the court is seen again in 25—and the extensive car parking areas in the lower storeys, 26, whose pilotis with their metal bash-bars, 27, look like the brass ferruled legs of Italian furniture.



27

PRE-FAB TELEX

The telephone is one of the most nearly standard objects of our modern way of life, the telephone exchange, in spite of the rigid standardization of most of what goes on inside it, has still to find its form. In complete contrast to the Helsinki version shown in *World* (AR, February, 1961) is the newly constructed exchange, 28, at Slotervaart, outside Amsterdam. Designed by J. W. Kamerling and B. J. Odink, of the Amsterdam public works service, it is a simple prefabricated structure, whose outward appearance,



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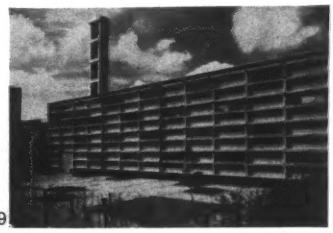

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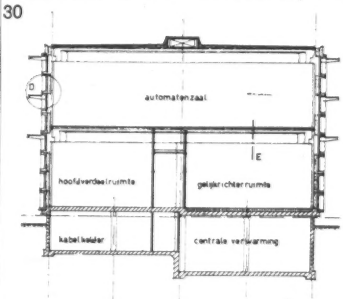
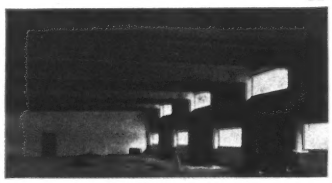


30

29, is rather deceptive. The distribution of sun-screened window units among the standard panels of the façade suggests a building with several storeys, but the section, 30, reveals a simple two-storey structure with basement, the windows being distributed at various levels to suit internal daylighting needs (and, doubtless, external aesthetic inclinations), 31.



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However, the external aesthetics are not to be taken lightly. The telephone exchange is a piece of industrial architecture that persistently has to be fitted into residential surroundings; it is also called upon to perform a public service without, normally, being a public building—and *Bouw* (February 11, 1961) reminded its readers that in a new town, the telephone service is as vital as shops and schools. Those who know what a dreary waste of disconnected domestic architecture a new suburb like Slotervaart can be, even in Holland, will realize that the prospect of a few more telephone buildings as good as this one (a development programme for this structural system is envisaged) will do much to relieve the monotony of well-intended low-pressure housing all around.

ARGUMENT PROCEEDING

The arguments in Italy triggered by the Triennale continue. The theme of *Casabella's* special issue on school building (see World, January, 1961) is also taken up by a new publication from the redoubtable publishing house of Tamburini, a periodical, 32, devoted to, and called, *Argomenti di Architettura*. Inevitably, the argument overlaps

32

with *Casabella*, though the voices are different and the precise points they make are different—the Mexican school at the Triennale is more fully discussed in the context of its relationship to the problems of the Italian South (Antonio Chiappano, in reviewing it, seems to find its educational content less revolutionary than some North Europeans did) and on the Notts/CLASP school the verdict is again cautious: Chiappano sums it up thus **'We do not know whether a school like that exhibited is quite ordinary for the English; certainly it is an example for meditation to us—and thus not for merely mechanical imitation—firstly because it is not a project but part of a reality already widely achieved, secondly because it is the concrete and realized expression of a tendency that has, in a few years, profoundly modified—not to say revolutionized—British school building.'**

The rest of the issue is largely taken up with reports of competitions for designs of schools in Italy, ample transcriptions of taped discussions between hard-hitting arguers (mostly little known outside Italy, except Marco Zanuso and possibly Giuseppe Ciribini, the engineer) and a gathering of miscellaneous reading matter and illustrations bearing on the school problem from various sides. But it is clear that the editors of *Argomenti* consider the recorded discussion as their vital contribution **'Far from considering it simply a fashion, we hold debate of this kind to be an irreplaceable instrument. The encounter of several persons, especially when one or several of them have already attempted to wrap up their opinions and knowledge in articles of a traditional type, unmistakably opens new perspectives and draws forth unpublished pronouncements . . .,'** and they intend to make such debates the main feature of subsequent issues of the magazine. The next issue promises a discussion on the new underground railway in Milan, involving, among others, the veteran modernist and town-planner Piero Bottoni, and Carlo Santi, who was among the authors of the *Cinque Vie* urban renewal project described in last month's AR. Later issues will discuss the INA-Casa housing schemes, industrial design, new towns in Russia, tourist routes in Italy, small-scale town-planning, historical sites, etc. The breadth of interest manifested in this programme promises well for an enlargement of Italian architectural polemics beyond the narrow professional field to which they have hitherto been confined.

views and reviews

MARGINALIA

APPOINTMENTS

Speculations about a new order at the Architectural Association, London, following the retirement of the present principal of the school, Michael Pattrick, have been answered in a more drastic manner than had been expected, and a more promising one. Taking advantage of changes on the administrative side necessitated by the simultaneous retirement of H. J. W. Alexander, the secretary to the Association, the Council have created a new post that completely alters the duties and leadership of the hierarchy of command. The new head of the school will be W. A. Allen, at present head of the Architects' Division of the Building Research Station, but an additional post of Director of the Association has been set up, with Edward J. Carter (for 15 years Librarian at the RIBA) as its first occupant, to give leadership to the Association as a whole. One of his tasks will be to bring the school and the architect members of the AA closer together. One of the AA's potential assets is that, unlike schools that are part of a university or a polytechnic, it has a body of practising architects on whose ideas and experience it can draw, but this the members have seldom fully exploited.

The choice of William Allen as head of the AA school, and the fact that Michael Pattrick is to become principal of the LCC Central School of Arts and Crafts, will bring radical changes to the state of architectural and design education in London. Its two leading architectural schools —the AA and the Bartlett (University College)—will now be headed by architects of a scientific bent, while one of London's leading design schools—the Central—will now have an architect as its principal.

PICCADILLY CIRCUS: THE HOLFORD SCHEME

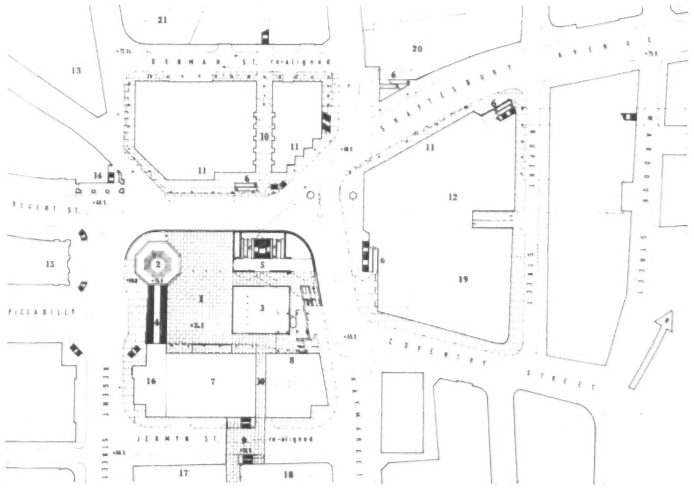
The slow progress towards a sane and worthy future for Piccadilly Circus has been advanced an important step by the release, by the LCC, of what might be termed an 'asking' scheme, since this project by Sir William Holford is to form the basis of negotiations with property owners, developers and other interested parties. In practice, two variant schemes are involved, both resting on the same ground plan, 1, which involves making one very large inhabited island-site in the middle of the traffic circulation. This in turn involves increasing the size of Jermyn Street, cutting a new street across the point of the Monico site in line with the bottom of Regent Street, and realigning Great Windmill Street as a northward extension of the Haymarket to meet Shaftesbury Avenue and the new road across the front of the Monico site.

Although the western end of the Criterion block, immediately north of Jermyn Street, would be retained to preserve the grand Edwardian composition of the west side of the square, the rest of this block would be rebuilt as a new theatre and a tall tower block. In the process of all this realignment and re-levelling in order to make the central pedestrian piazza, the London Pavilion would disappear (as has been the case in all recent schemes promoted by the LCC). It reappears, in the Holford scheme, with its base raised twenty-three feet and straddling across the traffic circulation in the north-eastern corner of the Circus, and is seen in two slightly different versions in 2 and 3. Whatever the pros and cons of these two versions (and obviously, considerable latitude will have to be allowed for this part of the design, which will be structurally tricky) this concept of a cinema on legs draws attention to the basic virtue of the Holford proposal—it does not just introduce high-level pedestrian walkways as a traffic amelioration, but creates a whole pedestrian place at a higher level, with ramifications extending deep into the hinterland of the Circus in north-easterly directions, 4.

This positive planning on more than one level (which includes high car-parking on the Monico block) is crucial to the whole scheme and will not, one hopes, be whittled away by developers still obsessed by such obsolete ideas as *frontage*. Even these should be reassured by the fact that Sir William has put back with one hand what he has taken away with the other—the reduction in advertising surface on the Monico corner is compensated by the extension of facilities for neon signs across the facets of the London Pavilion's hexagonal turrets. If developers can join Sir William in thinking three-dimensionally, then the future of Piccadilly Circus looks brighter than one would have dared to hope a little while ago.

IUA — PROGRESS ON CONGRESS

Since the New Year, preparations for the Sixth Congress of the International Union of Architects, to be held in London in July, have begun to acquire a cumulative momentum that covers all fields from staffing to exhibitions. Enrolments to date point



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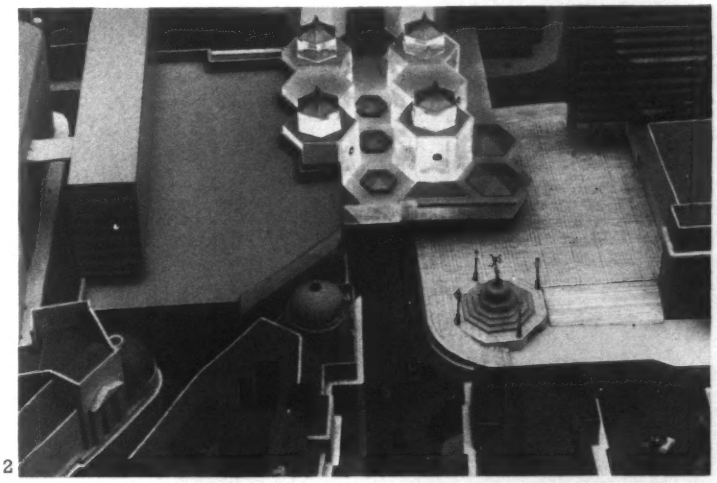
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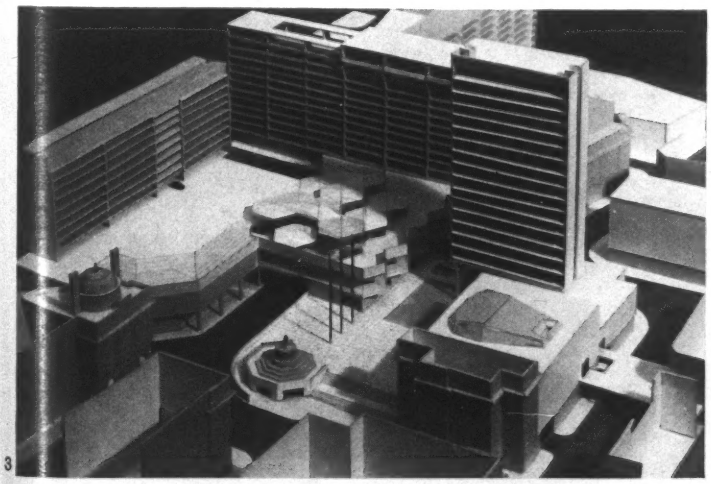
1, *plan at piazza level of Sir William Holford's proposals for Piccadilly Circus.* 2, 3, *views of alternative versions of the model showing the hexagonal pavilions of the London Pavilion.* 4, *plan of proposals at upper concourse level.*

key. 1. raised piazza. 2. Eros (flower shop below). 3. shallow pool with fountain jets. 4. steps. 5. main stairs and escalators connecting concourse, piazza and platform levels. 6. escalators connecting platform to street level. 7. new Criterion theatre. 8. tower of offices with luxury flats above. 9. pedestrian bridge. 10. shopping arcade. 11. shop fronts. 12. new hotel. 13. Regent Palace hotel. 14. County Fire Office. 15. Swan and Edgar. 16. Lillywhites. 17. Ceylon Tea Centre. 18. Gaumont Cinema. 19. Lyons Corner House. 20. Lyric Theatre. 21. Piccadilly Theatre. 29. pedestrian deck and new London Pavilion. 30. cafes. 31. bars. 32. restaurant. 33. hotel foyer. 34. offices over. 35. raised pedestrian way. 36. shops or departmental store.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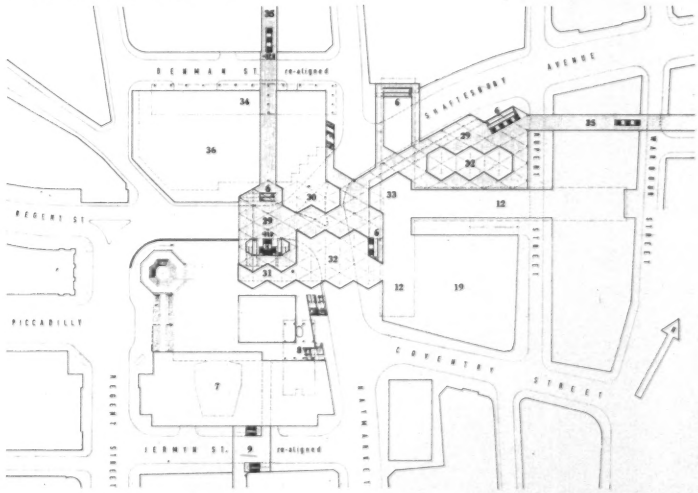

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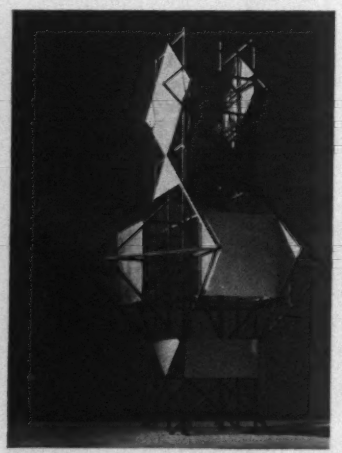
to a possible attendance of over 1,500, the Congress has acquired a full-time director, Mr. Gontran Goulden; details of the book exhibition, international in scope and covering the theme of the Congress 'New Techniques and Materials,' have been released, as well as the announcement that the LCC will stage a show of their Architect's Department and its work in County Hall during Congress week (July 3–7); and the plans for the temporary buildings, designed by Theo Crosby to house offices and exhibitions on the South Bank, have been made public.

These temporary structures, which are effectively the gift of the component and materials manufacturers and the contractors involved, will stand on the circular site occupied by the Dome of Discovery during the 1951 Festival of Britain, and will comprise—starting from the river end—a landmark



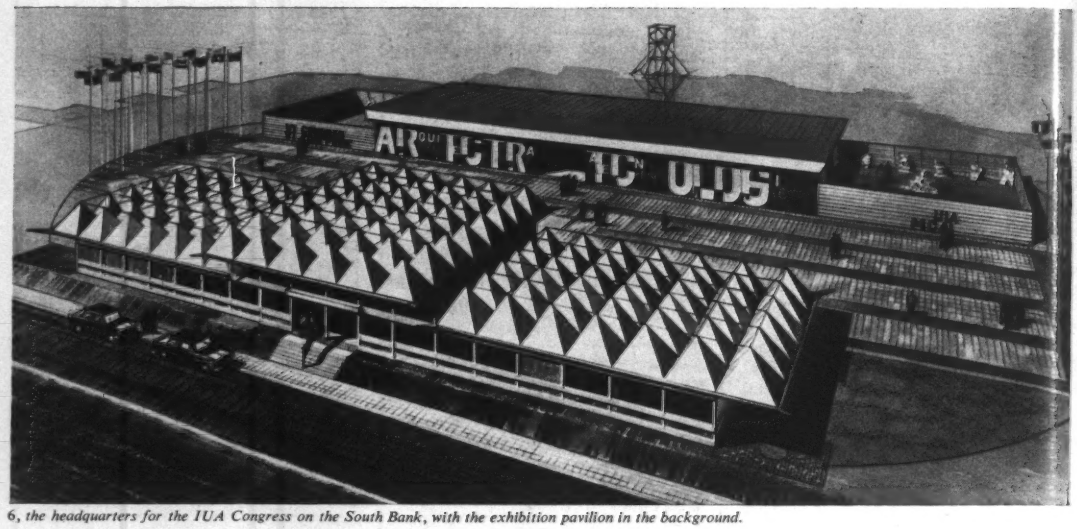
5, tower for the IUA exhibition.

tower, 5, designed by John Ernest, one of a number of abstract artists who are collaborating with the architect; an exhibition building and an office-pavilion, 6, roofed in aluminium pyramids, on the Belvedere Road side, facing the new Shell building. Between the offices and the exhibition will be the Court of Nations flanked by the flags of all the countries participating.

The whole scheme is highly commendable, not only for the way in which it gives practical exemplars of the theme of the Congress, employing relatively untried materials and adventurous structural techniques, but because it is also one of the few things that has happened to the South Bank since the Festival of Britain that answers to the standards that the Festival established. Let us hope that it will also inspire the LCC to rescue the South Bank from the municipalized sterility into which it is sinking.

TV TOWER

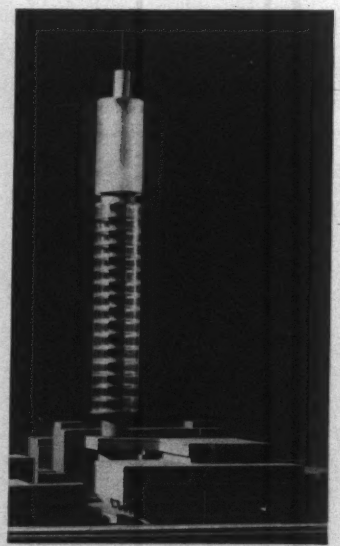
London, after all, is to have a Television Tower which, in function if not in form, matches such Continental examples as that at Stuttgart (AR, September, 1957) by having a public viewing platform at the top, served by high speed lifts. Since the object of this tower, 7, which will be situated next to the Howland Street telephone



6, the headquarters for the IUA Congress on the South Bank, with the exhibition pavilion in the background.

exchange in Bloomsbury, is to secure direct 'line-of-sight' transmission to microwave stations and repeaters in the Greater London area, the tower has to be higher than most of London's tall landmarks, and will make it possible to see over the top of St. Paul's (365 feet as against the observation platform's 463), the Shell building (330 feet) and even Hampstead Heath, though by a margin of only 20 feet.

These observations immediately inspire doubts in the other direction—the tower will be visible from the whole of the Greater London area, given good weather and a high enough viewpoint (from ground level it will not be visible two streets away, of course). The only historical, or Baedeker view that it seems likely to obtrude on to any noticeable extent is that from Primrose Hill, whence the present repeater aerials on Howland Street are clearly visible. But even from this near view the slim shape and largely glazed exterior should make it less obtrusive than some squatter but more solid buildings in the same panorama, and the Royal Fine Art Commission are clearly right to raise no objections to the design in principle. Work is expected to start during the course of the present year.



7, model of London's new television tower.

CORRESPONDENCE

WHAT BECAME OF CIAM?

To the Editors.

SIRS,—The letter on the subject of CIAM which has been circulated by Professor Giedion and was printed in your March number tends to obscure some simple facts. My aim here is to rectify the information given by him about the Otterloo meeting that neither he, nor any of the other three signatories of that letter, attended in person.

All those present at that meeting, when the resolution was finally put to the vote, agreed to drop the name CIAM from their activities. Some of those who took part left before this resolution was put, in spite of earnest entreaties to remain—hence the 'surprise' of those like Tange on hearing the CIAM had been dissolved.

It is obvious that the Team X members among the organizers of the Otterloo meeting are in no position to 'abolish' CIAM, which exists according to its own rules and institutions. But those present at Otterloo felt very strongly that the problems with which they have to deal, and their method of dealing with them, are both too urgent to be covered by the name 'Modern Architecture' which is so firmly attached to the architectural problems of around 1920. This being so, those at Otterloo felt that they should no longer work under the banner of CIAM.

Against this, Team X feel that they and other small groups of similar structure can contribute more than a large congress of the old CIAM pattern, and since it is important that such small groups engaged in research should be able to maintain contact with one another, it was agreed to set up the '*P*ost-*B*ox for the development of *H*abitat' for the exchange of views and information.

This in no way interferes with the continued existence of CIAM, and those who wish to continue it should certainly do so, even while also participating in the work of small research groups. Team X has no intention of imposing its views either on CIAM or on groups or individuals, but welcomes all work that tends towards the active discussion of live architectural problems, particularly the *moral function of architectural expression* (which is not the same thing as 'social responsibility' as Gropius maintains).

The actual position of Team X is set out in the statement which follows this letter; the BPH (post-box) exists to serve those aims.

Yours, etc.,

BAKEMA.

Rotterdam.

The statement referred to in Mr. Bakema's letter reads as follows:

Those who have prepared the 10th CIAM congress in 1956 at Dubrovnik and have given an essential contribution to the Otterloo meeting in 1959 (Team X) have arranged a meeting at Bagnols-sur-Cèze in 1960 and are now together in Paris.

They conclude:

1. That they have to prepare a publication about their thinking on the actual situation in architecture and urbanism.
2. That they like to work individually and collectively at the same project to clarify their thinking.
3. They think it very useful that the results of their work can be confronted with similar work of other individuals or groups.
4. For such confrontations it is possible to have a simple centre of communication. For such aims is available the BPH (Post Box for the development of the Habitat) which was created for this purpose at Otterloo in 1959.
5. This means that for this task the organization called CIAM is not necessary for Team X. Nevertheless Team X who participated in the post-war CIAM congresses express their gratitude to those who maintained that platform.

Those of Team X who are in Paris:
Woods, Voelcker, Smithsons, Josic, Van Eyck, Candilis, Bakema.

PAXTON AT SHEFFIELD

To the Editors.

SIRS,—In the article on the 'Paxton' Pavilions at Sheffield, published in your February issue, Mr. Richard Seddon quotes a contemporary reference to Paxton which implies that he was the designer of the Great Conservatory at Chatsworth. In 1956

documentary proofs became available, which left no doubt that the architect for the complete edifice, and all the structural details, was Decimus Burton. Paxton may have originated the idea, but Burton was the designer. The evidence is set forth in an article by Francis Thompson, C.B.E., F.S.A., Director of the Devonshire Collections, published in *Derbyshire Countryside*, Vol. 21, No. 5, August-September, 1956, pages 12–13.

Burton and Paxton may well have derived some of the ideas for the form and glazing technique of the Great Conservatory from the Bretton Hall glass dome, published in 1833 in Loudon's *Encyclopaedia of Cottage, Farm and Villa Architecture and Furniture*, to which Mr. Seddon refers, also from one of Loudon's earlier compilations, *An Encyclopaedia of Gardening*, published in 1822. On page 357 of Volume 1, Loudon gives two sections of the wrought iron glazing bar he had invented which made the curvilinear glazing technique possible. This invention he transferred with all his rights in it to W. and D. Bailey, of 272 Holborn, London, whom he described as 'efficient tradesmen' and added that they had since, from his plans, 'constructed a number of curvilinear houses in different parts of the country.' The 'efficient tradesmen' acquired those rights in 1818, and Loudon does not appear to have been paid anything for them, and was prompted to part with them 'to render all these improvements available by the public.' On the same page he illustrated a group of greenhouses on the curvilinear principle (Fig. 161), which he had constructed at Bayswater, the first, he believed, 'attempted in Britain.' The glazing bars had been presented by him to the Horticultural Society in May, 1816.*

In view of Loudon's pioneer work and his statement in 1822 that W. and D. Bailey had constructed several curvilinear greenhouses to his plans, it is not unreasonable to suggest that both Taylor in Sheffield and Paxton and Burton at Chatsworth drew some of their inspiration and ideas from these almost forgotten but recorded sources.

Yours, etc.,
JOHN GLOAG.
East Sheen, S.W.14.

To the Editors.

SIRS,—Whilst Mr. Seddon's article on the Sheffield Conservatories (AR, February, 1961) is most interesting, I must say that I do not think that Paxton had anything to do with the pavilions he illustrates. He probably, however, supplied the designs (or at least the constructional method) for the two *linking* greenhouses between the three domed pavilions, as is clear from a careful reading of the passage quoted from the *Floricultural Magazine* and from comment in Loudon's *Gardener's Magazine* for 1839 (page 453).

This is not the only factor, for the method of roofing the pavilions is quite different from that used elsewhere by Paxton at this time, which was the ridge and furrow pattern, using wood entirely for the covering, and iron only in a limited way for columns or beams. Moreover, Paxton had been experimenting with his wooden roofs since 1828 and his final system, although still of wood, was elegantly detailed and by no means thick and heavy as Mr. Seddon suggests.

So far as the Chatsworth Great Stove was concerned, I am sure that outside influences played only a limited part in its design, although Loudon's theoretical work of twenty years earlier must be regarded as a possible source for much nineteenth-century horticultural building—but Loudon advocated metallic construction, and the Great Stove was a timber structure supported on an iron boxframe and iron columns. Nevertheless, even with this historical association removed, the pavilions are still charming little buildings and Sheffield is to be congratulated on their restoration.

Yours, etc.,
G. F. CHADWICK.
Hale Barns, Cheshire.

* Reference to Loudon's curvilinear glass houses is also made on pages 132 and 233, together with an illustration on page 131, of the Pelican edition of Nikolaus Pevsner's *Pioneers of Modern Design*.

BOOK REVIEWS

HOLY TRINITY

THE MASTER BUILDERS. *By Peter Blake. Gollancz. 25s.*

Sadly one has to admit that this painstaking genuflection to the holy trinity, so patiently compiled, so lovingly documented, somehow fails to satisfy. Written primarily for the layman, and refreshingly free of professional jargon, it provides a careful chronological record of the lives and works of Le Corbusier, Mies van der Rohe and Frank Lloyd Wright, complete with admiring, sometimes penetrating and not over-reverential assessment, suitable anecdote, philosophical aside. Much we knew already, but it is convenient to have it all put together, with things we didn't know or hadn't realized, in a way which assists comparison and stimulates fresh appraisal.

Wherein then does it disappoint? Perhaps primarily because it is a shade too anxious to make its case (which needs no labouring anyhow) and partly also because it remains, for all its sallies beyond the redoubt, too compartmentalized. The blurb tells us that it 'adds up to an assessment of the whole range of modern architecture.' But this, surely, is just what it doesn't do. The method Mr. Blake has adopted for his book seems to be deficient in historical sense; it doesn't, for me at any rate, relate the work of these three giants with enough instance to the main flow of architecture either backwards or forwards.

We meet them as the great builders they are, immense creative influences, scorned and rejected like all great innovators, full of frailties (Corbu and F.L.W.) and consumed with constructive passion. And then what? The book might have had still greater value if it had spent more time in tracing through the influences, in practical output and theoretical concept, of these three great prophets and teachers in terms of current international architecture.

As with the present and future, so with the past. Mr. Blake makes with considerable insight the inevitable comparison between Corbu, romantic lover of the civilized city, and Frank Lloyd Wright, the city-hater thirsting to get back to Nature; but when he comes to examine Wright's associations with *art nouveau* and his famous conception of 'organic architecture' one feels he might have done so in the wider historical context of architecture's shifting relationship to nature, and of where and how Wright—and the other two as well for that matter—fit into the pattern. He asserts that *art nouveau*, abortive and doomed to a dead-end, inspired a 'new industrial style,' but he leaves insufficiently explored the justifications for this judgment as also the movement's emotional ties with the middle ages.

Trying sometimes too hard to prove a little too much (an error of advocacy when judge and jury are with you before you begin) he can commit himself to an occasional stunner. 'French machines,' he declares, are 'particularly inefficient' because Frenchmen never really take machines seriously. Tell that to the pioneers of the motor car and aviation, to the finest hydraulic engineers in the world! Tell that to Messieurs Citroen and the designers of the Caravelle!

Gerald Barry

HISTORY OF BROOKE HOUSE

BROOKE HOUSE, PARISH OF HACKNEY. *Part I, Survey of London, Vol. XXVIII. Athlone Press. 30s.*

Seldom can a London building be peeled like an onion, layer by layer, to reveal its past: bombing often wiped out more than dangled behind; if enough were left for the peeling process to be historically worth while, rebuilding might seal it all up before the heart of the matter were reached. An opportune if half-obliterated onion was Brooke House in Hackney. Owners during half a millennium (men as diverse as Thomas Cromwell and Fulke Greville) did much of the obliterating, and a bomb did more; its last owner (LCC) saw a chance to apply the latest archaeological skills, short of radiocarbon dating, to an Ur in the Upper Clapton Road.

An inventory, 1476–1954, would have included:

Item, great hall, built for a Dean of St. Paul's, perhaps model for a City Company hall, demolished in C18;
Item, arch-braced collar roof, C15 or C16 depending on interpretation of mouldings (extant till 1954 and well illustrated here);
Item, chapel wall paintings *circa* 1485, remnant now in London Museum (colour frontispiece);
Item, enlargements by Henry VIII, summed up, Mycenae-like, by diagrams in text: Phase I (Dean's), Phase II (King's);
Item, long gallery (very, over 150′) with plaster ceiling securely, and panelling perhaps, datable *circa* 1580;
Item, mid-C17 wing (later Gothick) of a bricklayer's classicism more *à la* Balmes House (level of pilaster bases) than Newington Green as suggested;
Item, Georgian wing of 1758, madhouse and landmark for almost two centuries thereafter;
Result, one Tudor-to-Victorian hotchpotch, hit by H.E. in 1940, acquired by LCC with land for housing, and found not worthy of restoration, only of slow and loving demolition, fortunately by an admirable band of experts, and fully reported here.

An earlier monograph on the house by the old Survey Committee under C. R. Ashbee (1904) was necessarily unable to get beneath the skin, rather uncritical of error, and addicted to the picturesque. The pendulum has swung; the old approach is unmourned; but after the experts have done, what? An unusual burst of rhetoric at the end of the new volume tells us that this was 'the scene of one of the saddest episodes in the history of the English Crown'—and it takes some digging in the documentary chapter to unearth what that was: Henry's reconciliation with daughter Mary (1536) after making her renounce her mother. One is left with fragments—which, of course, were just what the investigators found. Only some sound and stylish synthesis could bring this onion back alive.

Priscilla Metcalf

MASTERLY SELECTION

LE CORBUSIER 1910-60. *Girsberger, Zurich. Price, 58 Swiss francs.*

The six volumes of the *Oeuvre Complète* of Le Corbusier, which have been appearing at intervals since 1930, make an impressive but unwieldy shelf-full, and the year 1960—when there are fifty years of the master's work to be illustrated—is a well chosen moment at which to summarize it in a single volume.

This volume, therefore, in the same format as the others, provides an invaluable conspectus of their contents. It is a masterly selection. Nothing of importance seems to have been left out, and it is interesting to note, such are the changes of value that time has brought about, that one building has been brought in: Le Corbusier's first house, the villa at Chaux-de-Fonds with its symmetrical street façade carrying a vast blank panel flanked by oval windows. This house was not included in the first volume of the *Oeuvre Complète*, which began instead with the 1910 project for artists' studios.

The six earlier volumes were arranged chronologically. This, instead, is arranged by subject. There are five sections: private houses, large buildings (hostels, offices, factories, apartment blocks and the public buildings at Chandigarh), museums and religious buildings (which means, leaving aside projects and temporary exhibition buildings, which are here classed as museums, the museum at Ahmedabad, Ronchamp and La Tourette), painting, sculpture and tapestries and town-planning projects. Within each section buildings and projects are however illustrated chronologically so that the volume can still be used to study the evolution and the seminal influence of Le Corbusier's ideas. In spite of all that has been written about him by others, Le Corbusier's own explanations still remain the best source of enlightenment about his work, a fact which is emphasized by the even newer volume, *Le Corbusier: My Work* (Architectural Press, 1961), which is published just as this notice goes to press and will be reviewed shortly.

J.M.R.

Last year nearly two million Britons took their travel allowances abroad. Multiply that figure by X for other enthusiastic rubbernecks and the answer explains why many countries not blessed with coal and iron now give the first place in their economic programme to the tourist industry. For those at the receiving end the profits arising from the relentless demands of tourism provide an irresistible temptation to commercialize their assets (or as it used to be called, heritage) with results similar to those envisaged for the Lake of Bolsena in Italy, where an esplanade at shore-level is now projected for the entire waterfront. Bolsena is probably the last remote major lake in Western Europe, but its fate is typical of landscapes and townscapes which are being systematically destroyed all over the world in the effort to make them available to the million. This problem and how it can best be faced are discussed in the article beginning opposite.

Ivor de Wolfe

THE BRIDGEHEAD PRINCIPLE

WITH SPECIAL REFERENCE TO ITALIAN LANDSCAPE AND THE LAKE OF BOLSENA

Tourism is now a major industry. In theory it enriches those who give and those who take. In practice it is stripping Europe of such character as was left to it after the first industrial revolution had done its worst. The ideal behind the thing—the theory of the Grand Tour—aims to help John-Brown-of-London-Town (shall we say) to see the world, the implication being that the world is a rich place to see. But, by a process science knows all about, and planners nothing, the more John Brown sees of the world and the more the world sees of John Brown the less rich they both get, he in experience, the world in variety. In the end the law of entropy ensures that the world and Brown will flatten out to a dead level of sameness, equalized by a Second Law which frames both in a sprawl of chara-parks and hot-dog stands.

The reasons? Armies of transport, like the transport of armies, involve mass organization on a scale that disturbs and, in the end, disintegrates the lesser entities on which the invasion falls. Town after town in Europe is at this moment reeling under the hammer blows of the chara-circus. Surrender means being blown to blazes by the road engineers, with the substitution of a barbarous by-pass culture for the ancient civilization of our cities. Disaster for the city, the citizen—and for Brown—the unwilling victim of a cruel law by which he is persuaded to destroy the thing he loves in the homage he pays it.

One says a law, but of course it isn't. Or if it is, it remains one only so long as society is determined that entropy must provide the rationale of progress. The instant organism displaces entropy in the philosophy of the planner it is open to him to reverse the process by taking a look at the underlying forces and deploying them in a productive way instead of leaving them to find their own dead level, the operative word here being dead. A large part of Europe is now under attack from the commercial genii of the Second Law, and most of it is peacefully submitting to their terms in the belief that the conquerors bring prosperity, if not peace—ignorant or indifferent to the patent fact that any long-term prosperity from the fruits of tourism is conditional on a principle of no surrender. Once

the *route touristique* from Oslo and Inverness to Athens and Granada becomes an indistinguishable mess of ads, wire, motels, caravanserais, car-parks, no one will spend good money going to visit what he can get free at home. Brown is at the moment in the ascendant but in his own interests it is urgent that he should not be left victorious on the field—or rather park—car-park—of battle triumphantly pipping his horn.

And that's exactly what it is—a battlefield, occupying today so large a slab of Europe that it is difficult to discuss the problem except in generalizations which make abstractions of the real issues and get one nowhere. To avoid merely repeating the stale old litany of complaints let us for the space of this article consider a specific case, the lake of Bolsena near Orvieto in Italy's belly, celebrated in history as the spearhead of Etruscan culture up to the moment the next-door-neighbour turned nasty and wiped that culture out. Now, over two millennia later, Bolsena is in danger of another act of sabotage, if not total obliteration, carried out this time at the hands of its own citizens, the occasion a top-level policy decision to embark on the touristic exploitation of the region. Here for all to see is a text-book case worthy of discussion on a front much broader than that of the people involved, because it localizes a problem we are all up against, and also because the offensive hasn't yet developed. Which means Bolsena isn't yet a lost cause.

The first thing to be quite clear about is that there are no ogres in this story. The exploiter is the provincial Authority in Viterbo twenty miles away, a collection of devoted and dedicated men pledged to the interests of their region. But the fact remains that if plans up till now in cold-storage are brought out and put into operation Bolsena will, under attack from Brown and his buddies, be faced with a similar disaster to the one it suffered under the Romans. As an entity, as a specific object distinguishable from other objects, as a *place* with its own genius, Bolsena will cease to exist. Instead, Europe will have one more major car-park and the chara-circuit one more roundabout with public lavatories strategically placed.

What is this place and genius? It is first and foremost a lake, the crater of a volcano more ancient than the Etruscans, 400 feet deep and roughly ten miles square. Monsters inhabit its deeps and its shores are flanked not by the Alpine scenery of the northern Italian lakes but by the immemorial Mediterranean countryside of vineyard and olive grove. First property of all, and in virtue of the stress-complaints of the twentieth century, most well worth saving—remoteness. A psychological rather than a physical quality, which can in fact be realized on the quays of a port or in a city park. Bolsena is remote in that sense, intensely, religiously, movingly so, living a life all its own which quickly overcomes the ribald visitor. Olive groves come down to the sandy shores where baby waves break in a silence as deep as that of a Pacific atoll. Along these shores the huts of fishermen nestle in jungles of bamboo so dense that no human foot could penetrate the interior but for the donkey-tracks which honeycomb the hills, fenced on the lakeside by eel-nets in endless necklaces and beached fishing boats of Reckitts blue. There are poplars and reeds and ancient barns, farms with their sunbleached tiles buried in acres of tree-borne vines, a few ancient villages set in the reeds which wade out to the deep water where fishing boats hang like painted ships upon a painted ocean.

Such is the 'region' which is now to be 'developed.' At a certain point a spur of rock points a finger towards two islands, one the property of the Del Drago family, princes of Bolsena, the other the scene of Queen Amalasuntha's murder in her bath by her Gothic lords in A.D. 507 (they didn't like her manners, which were too Roman). Upon this rock stands the little town of Capodimonte, most fishy of the fishing villages, and behind rises, shoulder by shoulder and combe by combe, the most beautiful countryside in the world, vineyards, olives, oaks, corn, terraces, streams, rocks, walnuts—Chinese in its art, Italian in its variety, the nearest thing to Eden on earth, presided over by a miniaturist god.

Into this paradise, snaking from Viterbo to the lakeside, the serpent has now come in the shape of coiling tarmac. In his mouth is the apple of foreign gold and not an Eve or Adam in this Eden but sees himself nibbling that apple. Eve doesn't have to bother with sales talk, she doesn't even have to hold the thing out, the apple is there already in the mind's eye of every bar- and shopkeeper and restaurateur, in every village on the proposed circuit. Large cars and rocketing land values make close harmony for those who can look to get pickings from the *route touristique*.

Nor can you blame these eager souls for having an eye to the main chance. The local communities have lived next door to subsistence level for too many centuries. The lake, furthermore, is within the orbit of industrial Viterbo, the county town, and the city and county fathers are justified in seeing it as a great potential amenity for an industrial population. Since everyone in Italy now has a Seicento or Topo or Lambretta or Vespa or Moto-Guzzi, the Sunday spin to the hills or the waterside is rapidly becoming as much of a must for the Italian townee as for the English subtopian.

But this is the point, isn't it, of all such issues: everyone is right. The locals are right to want to turn an honest penny, the car-owners are right to want to get out into the country of a Sunday afternoon, the foreign tourists are right to flock in by car and chara and plane and train to admire beauties denied them in their own cold, hard, ugly Northern twilight, the city fathers are right to see their duty in terms of exploiting the local features of beauty and interest as an amenity for the public to whom they are responsible.

What then is wrong? Nothing—except that one

[continued on page 233

Reflections, cloudscapes, fishing boats, eel nets, donkey tracks through the bamboos, remote vistas of lake and reed, islands seen through the olive groves, remain the insignia of Bolsena, unique only in that they have not yet been flattened out in favour of the endless chain of charas which has destroyed already the genius of most of the great lakes of Europe. The purpose of a road is to provide access to an amenity. If in providing the access you destroy the amenity you have spent your labour in vain. Bolsena as it stands is a priceless amenity.

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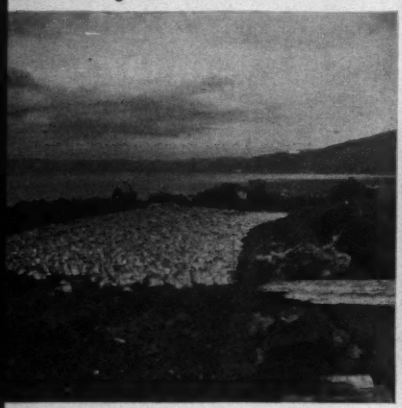


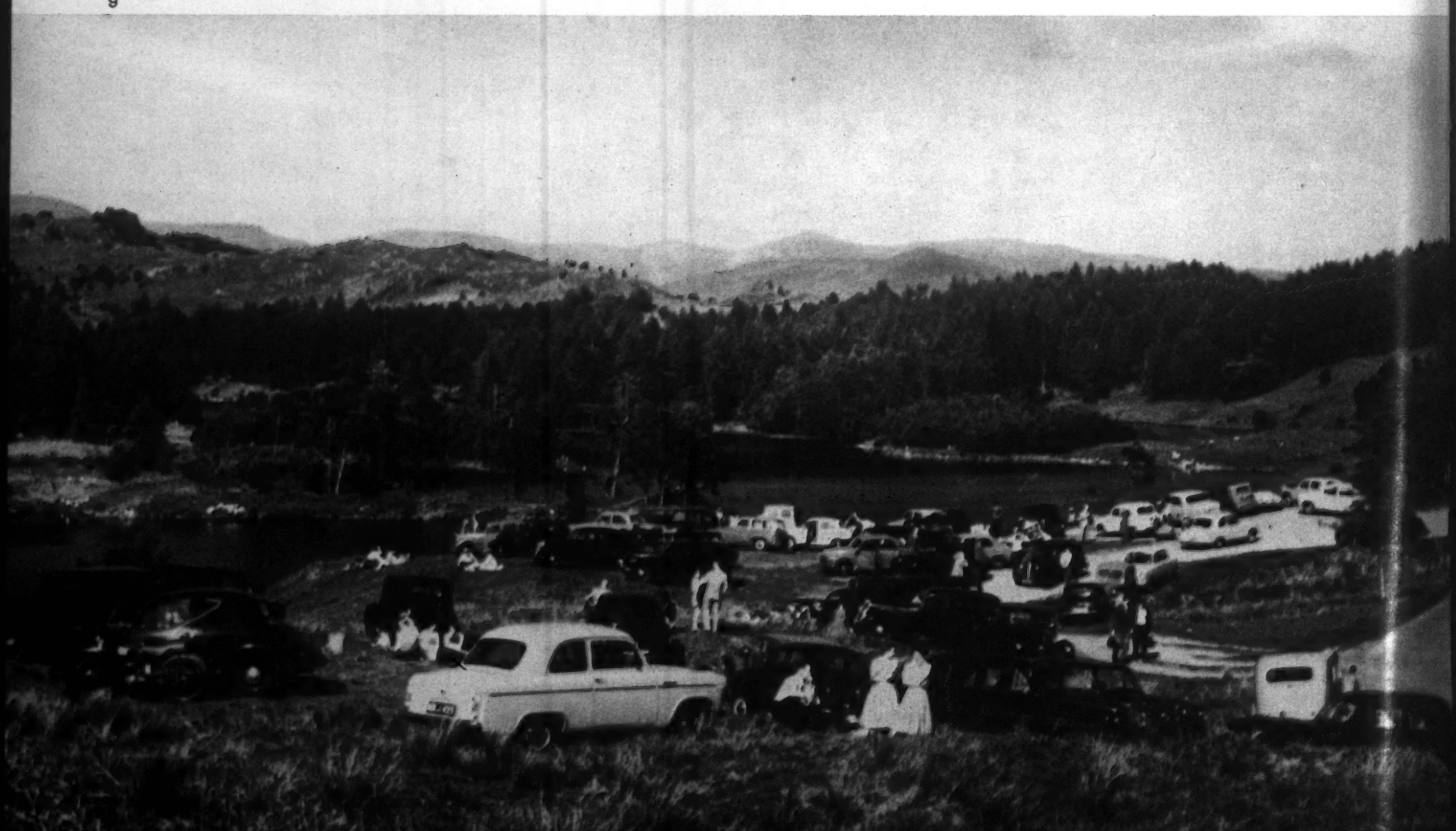
6

7

8

1, *the strada panoramica comes down from the hills at Montefiascone and becomes an Esplanade. Immediately a wire fence makes its appearance. When it reaches the lake a vast car park,* 2, *is created with,* 3, 4, *the first of the bijou villas for company, front hedge of blue conifers. Two foreign importations already—wire and blue conifers. When hedges have to be planted (as they should wherever wire is laid down)* mixed deciduous *is a* must, *ornamental evergreen (everblue in this case) a must* not. *The top row of pictures shows what has been built already, the lower, what is building now.* 5, *an unfinished stretch of the Esplanade designed to ring the entire lake.* 6, 7, 8, *men at work clearing the ground at the road-head for the next section. In the end if this work is proceeded with, Bolsena will join the other lakes of Europe,* 9, *as a Sunday afternooners car-park. Fun for once, but a travesty of the real purpose of recreation. A total loss, that is, as a relief from urban pressures.*

9



continued from page 230

more natural object of incomparable beauty is to be written off in the interests of those whose rage to enjoy it will be the cause of its destruction. I say '*is* to be' because the tragedy hasn't yet occurred. Bolsena is still remote, still has reeds and bamboo jungles and fishermen and their huts, still reflects the cotton-wool clouds and deep sky undisturbed by speed-boats and surf-riders, still takes the early sun in deepest silence of the primeval world, and the setting one to the long 'Ah's' of *contadini* urging their laden donkeys up secret tracks to Gradoli—Dad riding on the hindquarters, Mum in tow behind with a firm hand on the tail. The dusk meets them as they enter town—a donkey town—echoing not to Klaxon and revving-up but to the frou-frou of tiny hooves.

But it is a matter of months. Already the road has reached the lake from Montefiascone and men in check shirts wielding picks and long shovels are levelling the ground to Mata, scheduled to be reached September next. Other men in whole suits are out in front making surveys, laying down the line. There is hope however. The final road-plan hasn't yet been passed, and in this lies the opportunity for the planner, who is bound to ask himself what he would do to strike a balance between the needs of the chara-parties and the demands of the eternal verities. *Compromise?* Certainly not. Whatever some may say, planning is *not* the art of compromise. Compromise gets plans accepted at meetings of the local council, but only after they have ceased to be plans. Planning is the art, not of compromise but of reconciliation, quite another thing, and to reconcile one need with the other is what the planners need to do here. Difficult? Why? When the demands are the same—of the verities for remoteness, meaning the appeal to nature, and of the Cinquecentos, also for remoteness, meaning exactly the same thing. Why else would they leave town and buzz to the lake-side except to ring the changes on the urban idea (and get cool, which comes to the same thing).

Let us at this point dispense with rhetoric and come down to a discussion of the plan. All too naive a plan, one quickly sees, in which lies perhaps its only serious flaw. The idea of taking a lake and then ringing it with a road, like the idea of taking a river and hemming it in with a traffic boulevard—or, still worse, a railway—belongs to the dark days of town-planning a hundred years ago; the eighteen—not the nineteen—sixties. And here is where Italian ideas are seriously out of date in comparison with those of the rest of the Western democracies, principally because Italy has only arrived since the first world-war at problems which were giving others (including the British) bad nights way back in the reign of Victoria the Great. The British got most of the answers wrong and are still suffering the consequences, but it would be a tragedy for Italy, and indeed for civilization, if today, more than half-way through the twentieth century, the same questions still received the same wrong answers, just as though they had never been posed before.

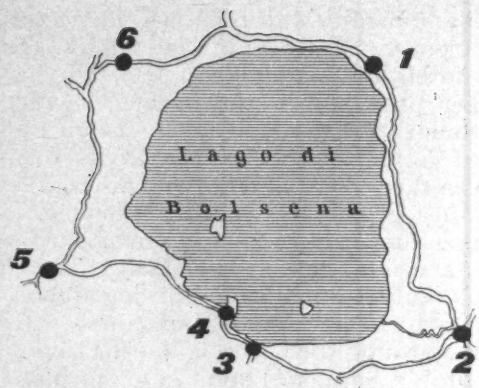
Briefly, the idea of a road is not to make things easy for Sunday-afternooners who want a little light relief, but to give access. To give access to those who can appreciate the treasure thus put at their disposal. To offer access to an amenity and then use the access to destroy the amenity, is an act of sheer folly. Or ignorance. Good intentions wrongly applied. In this context the proper precedent is the bridgehead—as opposed to the boulevard. Of the small towns on the lake, each should form a bridgehead with its own facilities for the parker, the boater, the bather, the diner-out. A lido, in fact, all chara-parties welcome.

But now consider the truly terrifying prospect of a lido-without-end, a vicious circle, an endless chain of bathing huts, children's paddle-boats, hot-dog stands, ice-cream stalls, trattoria, cafés, bars, bungalows with blue conifer fences girdling the entire lake—for that is what would inevitably happen, planning or no planning—nearly fifty miles of it, complete with speed-boats and outboard engines. At such a development surely even the most unimaginative official would boggle. Merely in the interest of the lakeside villages, the spending power of the tourist should be canalized within the town itself rather than dissipated in the queue, car-nose to chara-tail, along the whole length of the shore, nibbling pizzas, and throwing empties and sardine tins into the lake.

So much must be obvious even to the business interest which cares not a button about the Italian scene. It is certainly obvious to the mayors and councils of the surrounding communes. They, the hard-hit towns of this recently hard-hit countryside, should be the first beneficiaries of the new developments and not all of them are on the lake. This is where sound business and sensible planning, not to mention sane economics, join hands in pointing to the obvious solution. For, believe it or not, the lake already possesses, on two sides and at a distance from it which just preserves its remoteness, two arteries, the Cassia and the Gradoli-Valentano road, which connect *all* the towns and villages involved in the development, and present views of the lake you would have to go the Alps to beat.

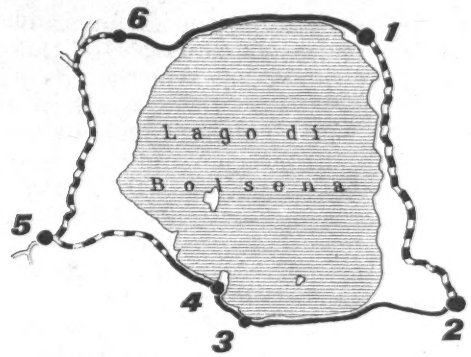
As one switchbacks up and around these exciting crests, the lake is presented in every possible combination—except one. The more one sees the more the longing grows to get down to it and make immediate contact with the thing. This is the impulse the ingenious planner will foster, and then suddenly and dramatically satisfy by what we have called here the bridgehead principle. From Bolsena town, going south, he will use the Cassia itself, and then the tremendous vistas rising to Montefiascone to whet the appetite for that dive down the *strada panoramica* to the shore itself, and the most sublime of the lakeside views towards the islands, with Capodimonte in the background. Real landscaping, this, the genuine thing. The heart of the poet cannot help but be torn at the sight (now showing) of the brand new lakeside boulevard hewing its way remorselessly through olive plantations, whose trees have lapped those waters since the Etruscans built their capital city not far away, but it is unquestionably right that the Lambrettas, Vespas, Moto-Guzzis, (but not, we hope, the *auto-treni*,) should be allowed to invade and occupy this line, even the six miles of it to Mata.

A long enough bridgehead, that, indeed much too long, but let us give them a good run for their money. After this orgy of waterfront, the hills again, through



existing road plan

proposed esplanade



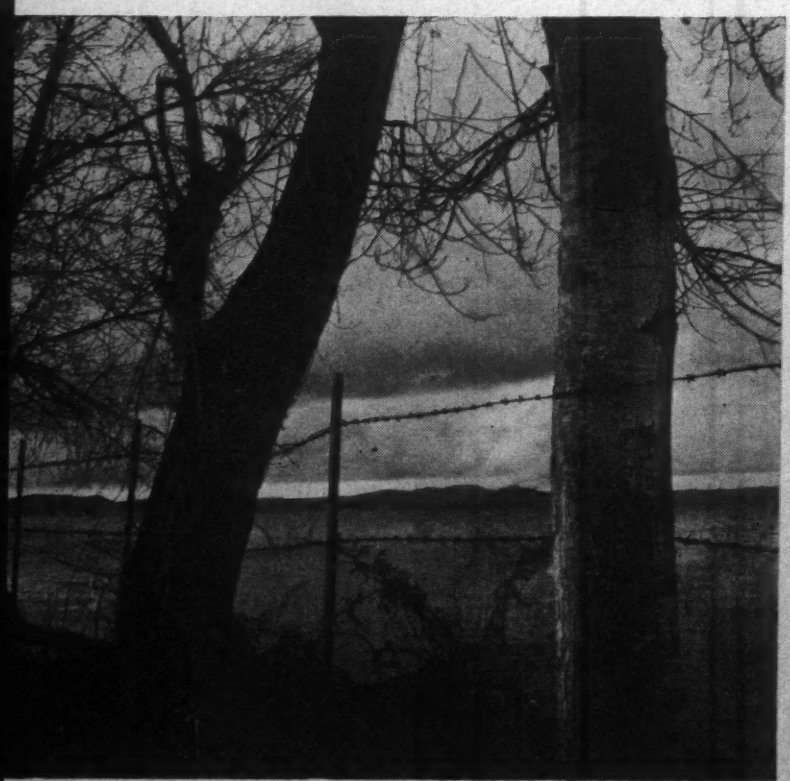
correct solution

key
1, Bolsena
2, Montefiascone
3, Mata
4, Capodimonte
5, Valentano
6, Gradoli

existing road system
proposed esplanade
existing road system linked to esplanade to create a *strada panoramica*

The proposed esplanade ignores the existing road system. It is to be slammed down quite arbitrarily at enormous cost round the extreme edge of the lake making a continuous lido of what is now a remote 'natural' landscape. Correct solution, to reconcile one need with the other—lido and landscape—by integrating the esplanade with the existing road system, so creating a true strada panoramica *which will make a dramatic switch-back Cresta Run-style motor road, serve the villages, provide bridgeheads to the water, preserve the genius of the place, and add a new dimension to the lake instead of reducing it to another chara park. All at a cost a tithe of the official proposal. Bolsena has been chosen for this study because it is a text-book example of how intelligent planning could make sense of twentieth-century requirements without destroying everything one means when one speaks of the heritage of a country.*

The issue is not simply whether to make or not to make a road. It is the question of the measures used to implement 'development.' For instance, wherever the esplanade has been projected a chess-board of barbed wire is springing up, symptom of the desire of officialdom to do what no sensible Italian wants—get everything cut and dried. This unnecessary exercise is already changing the face of Bolsena but it is doing something more sinister still—implanting in the peasant the idea of the equivalence of wire and Top People. In consequence a fashion is growing amongst farmers of stringing the boundaries of their property with barbed wire for no other reason than to show they are successful enough to be able to afford this expensive stuff. Sometimes it is a five-decker fence, sometimes a seven-foot wire mesh on steel posts. Since there are no animals to be fenced the exercise is totally redundant, but those who fail to do likewise are suspected of being beats or commies. Barbed wire, in short, is becoming a status symbol. An unpleasing prospect in a country laid out on the ground-plan of a vast allotment, since an allotment in which each plot is wired off from the others will turn what is now the most beautiful landscape in the world into a hell undreamed of even in the philosophy of William Beckett. The cure is very simple. For the Authorities, local, county and national, to discourage the practice by not indulging in it themselves.



the depressed villages of Valentano and Gradoli, Grotto di Castra and (if possible) San Lorenzo Nuovo (though that would be more difficult)—villages which so sorely need the aid tourism can bring them. Then, beyond Gradoli, down to the lake again for a run round the northern end, and so, by the Regina junction back to the Cassia and, at a decent distance from the shore, Bolsena, where once again and for the last time the car-owner may make contact with the lake. About twelve miles of contact this would give, and thirty-five of withholding contact. The ratio in favour of the bridgehead is far too great, but even so the true character of the lake could be preserved. This could then be offered on a plate to those eccentric people, the naturalists, the poets, the philosophers, the dislikers of lidos and lemonade-counters, who are prepared, greatly daring, to step out of their cars. It could also preserve some of its uses and charms for the fisherman and the peasant. No more than a foot-track or donkey path through the bamboos, reeds and olives, would be needed here to provide the true amenity remoteness can offer to those who want it, and there are many who do.*

Various minor points of importance arise. First. Not using the *strada panoramica* to shorten the distance between two points, for in that case through-traffic will use it in preference to the existing main-road system, thus defeating its object as a tourist amenity. Even the non-planner must see that a stream of lorries and double-trucks won't improve the scene. Right-angle turns to the lake, on the other hand, as at Bolsena town, are to be avoided or ironed out, for though they discourage the *auto-treno* they likewise tempt the tourist to side-step the trap laid for him.

But these are minor matters. The essential considerations are:

(1) that a road is access and must be treated as such and not employed to undermine the amenity it serves.

(2) That, besides being the industrial raw material of the farmer, *country* (as opposed to *town*) has immense psychological importance for the townsman in the twentieth century, whose tendency to commit outrage upon it in the cause of re-creation must, in his own interests, be discouraged.

(3) That turning a natural object of the character of Bolsena lake, with its multiplicity of functions and interests, over to one kind of traffic (motor) is a misuse no modern planner would countenance for a moment. In the last resort Sunday afternoon motoring does not represent the highest objective of man. There are other interests to be considered, some of them socially more important. Those for instance of the hiker, the camper, the communer with nature, the naturalist, the victim of urban pressures in search of relief, all of whom should be allowed the opportunity to enjoy a type of background which does not include an A-class motor road and a chain of pylons.

(4) That for all the users of the amenity—and this applies as much to the motorist as to his enemies—variety is the spice of life. Meaning that the best road-plan is that which provides the greatest contrasts of contour, country, sights, scenic effects, surprises.

Finally, (5) that to ignore the genius of a place and think only of the money you can make by its exploitation is neither civilized, nor, in the last resort, good business. The lake of Bolsena is a place. Its presiding genius has kept it going in rare and remote beauty for rising two and a half thousand years within the memory of man. The deliberate destruction of this thing in whatever cause would be inhumane and shameful, and there are still men in high places who would hesitate to commit such an outrage when other alternatives offered.

And they do. There is no essential contradiction between modern needs and the ancient traditions of the Lake. The only failure is in the imagination of those whose job it is to reconcile the two. In this Bolsena is of course not unique. Hardly a lake of any size but has been sold into slavery to Universal Tours Inc. On these the charas of Christendom are at this precise moment fixing their sights for the summer offensive. They are excellent charas, the freight they carry is human and idealistic, the routes they traverse paved with good intentions. Yet they have become engines of destruction.

They do not have to be; they could be messengers of good-will and more than that, good tidings. To be such, however, they must be steered by men who have not grown drunk on entropy. And by politicians wise enough to know that the goose who lays the gold bars from Fort Knox (and elsewhere) must be loved and cherished—not cooked—if it is to go on drawing the crowds. Once the bird meets its end on the road it won't much matter what ran over it, Cadillac, chara or Seicento.

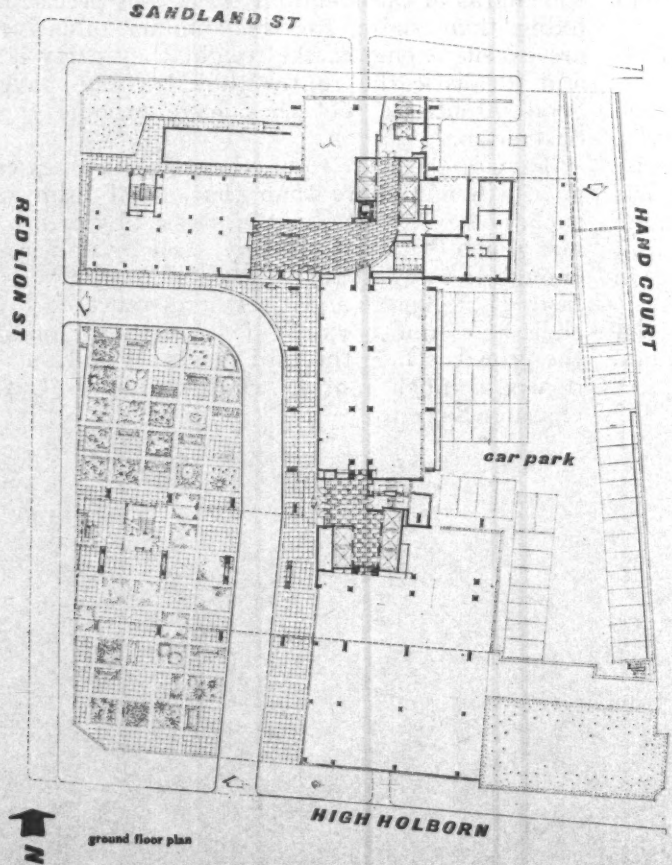
**Many a peasant now has his motor-bike or small van. The donkey-tracks will carry these very comfortably with a minimum of upkeep.*

1 (opposite page), from High Holborn

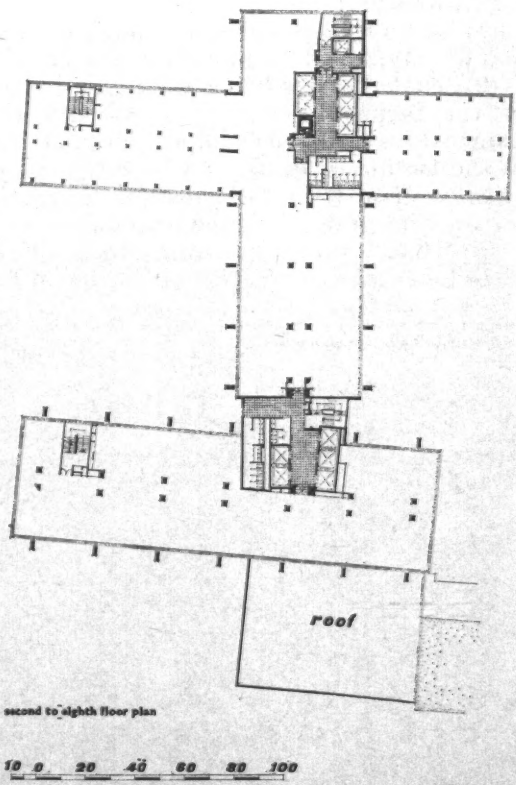
OFFICE BUILDING, HOLBORN, LONDON

ARCHITECTS | **TREHEARNE AND NORMAN, PRESTON AND PARTNERS**

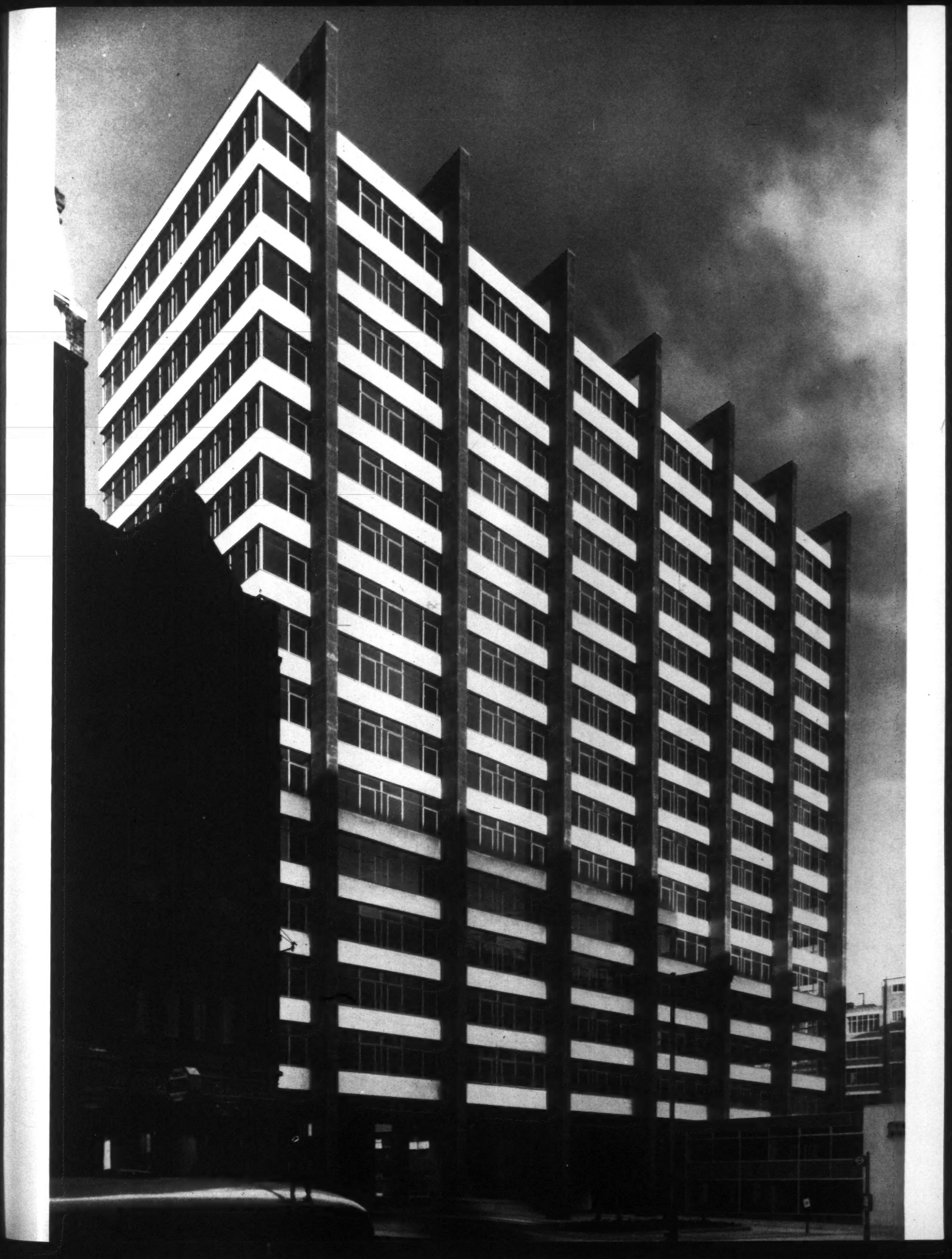
A striking contrast in attitudes to urban redevelopment is revealed by the present state of High Holborn. For most of its length, new blocks have filled out the maximum permitted building envelope and crowd forward on to the pavement—except at one point on the north side, opposite Great Turnstile, where this building, State House, stands back, with only a low fore-block coming up to less than half the pavement line, the rest of the frontage being occupied by a piazza running back under the main block for most of the depth of the site. This 'donation of ground to the public good' makes State House one of the half-dozen most important new office blocks in London and—together with the quality of the building itself and the commissioning of an original work by an important sculptor—reveals an attitude of awareness and responsibility that is woefully lacking, even now, from the bulk of the office developments still being built between Oxford Circus and St. Paul's.

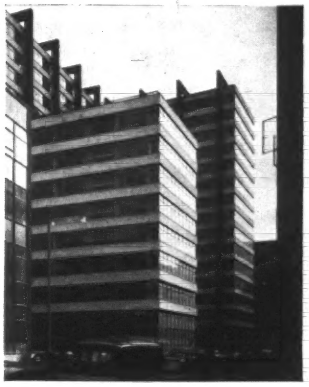


ground floor plan



second to eighth floor plan





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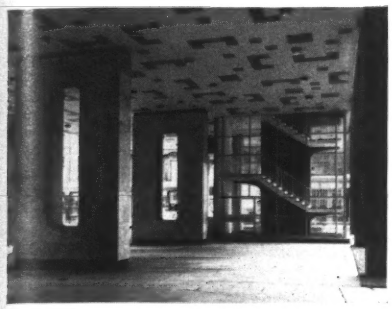
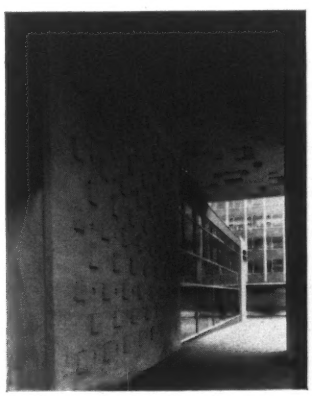


7

2, close-up of external column showing connecting nibs. 3, looking towards the main entrance from under the 16-storey block. 4, the west nine-storey block from the courtyard. 5, first-floor landing above the main entrance hall. 6, from the junction of Sandland Street and Red Lion Street, showing the western nine-storey block with the T-shaped 16-storey block behind. 7, staircase of the 16-storey block seen from the secondary entrance. 9, 'Meridian', sculpture, cast in bronze, by Barbara Hepworth.



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The building, called State House, is planned as a comprehensive development of the site bounded by High Holborn, Red Lion Street, Sandland Street and Hand Court, involving the closing of a former road through the site, Featherstone Buildings, whose Georgian houses were much damaged in the war. The main block is T-shaped, 16 storeys high, with one wing parallel to High Holborn and the other wing parallel to Red Lion Street. Two low wings, nine storeys high, abut on the high wing parallel to Sandland Street.

The main entrance hall faces High Holborn and is at the junction of the western low wing with the high block. In order to make the entrance hall visible from High Holborn and to open up the site, the high block on the street frontage stands on columns two storeys high. The whole of the site was excavated, and the basement contains car park, storage area, and a part designated as a restaurant.

The landscape architect responsible for the layout of the courtyard was G. P. Youngman. The sculpture, 'Meridian,' is by Barbara Hepworth.

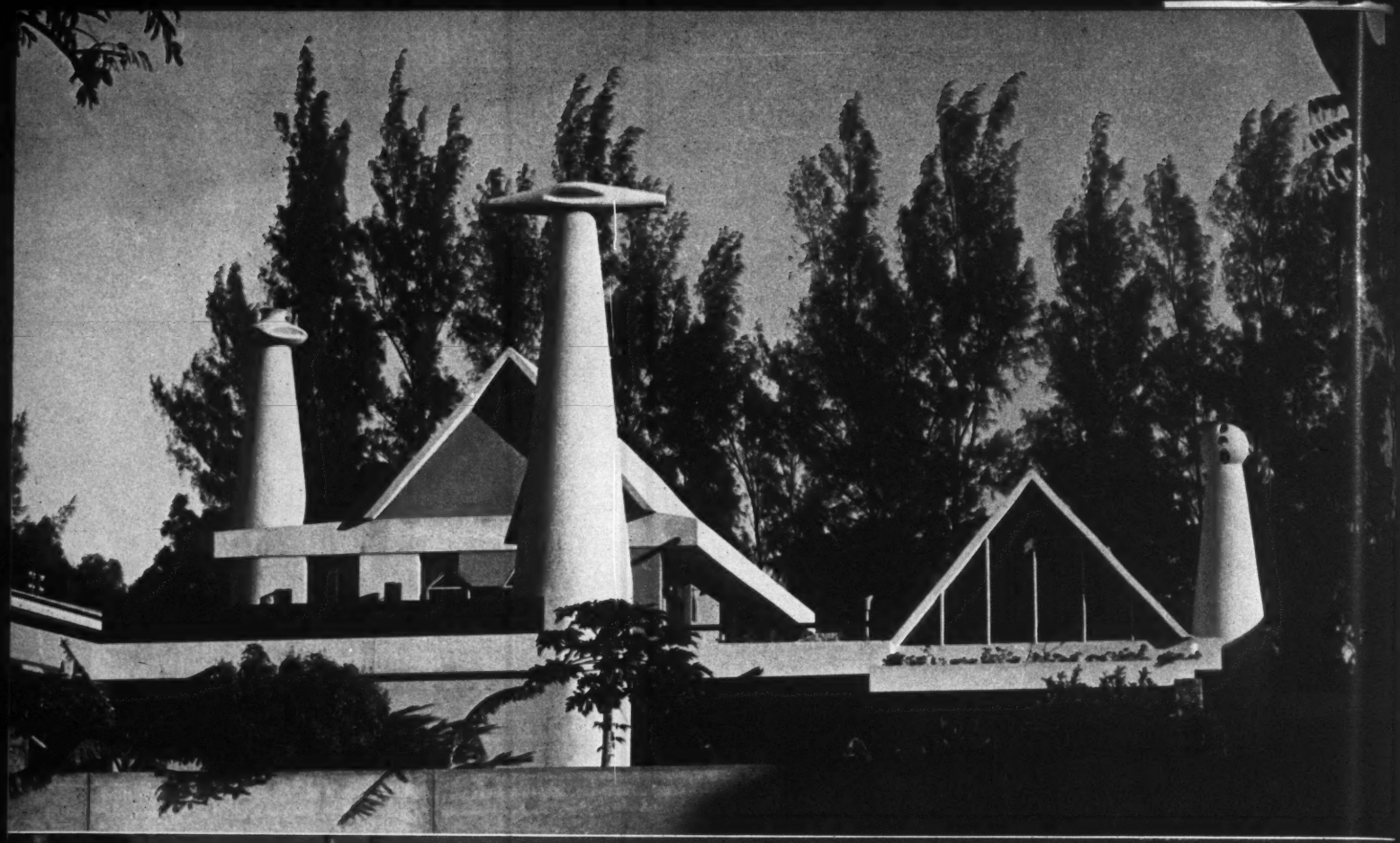
The high blocks are supported on 3ft. 6in. by 1ft. 6in. external columns, connected to a 3ft. 6in. deep upstand beam by a 10in. long nib. The floors are hollow pot flat slab construction with no downstand beams. The upstand beams forming the walls are faced with 4in. Portland stone, which was used as permanent formwork. The external columns are faced with exposed aggregate concrete panels. The aggregates are of black and green granite. The soffits of the block facing High Holborn are faced with ceramic mosaic.

The building is heated by a continuous cill-line convector system. The windows are arranged on a 4ft. module and office partitions can be attached to mullions. As the columns are outside, the windows and the cill line convectors are continuous, and there are no obstructions from internal columns. This, together with the flat-slab construction, gives maximum flexibility in internal office planning.

The development was carried out by a wholly owned subsidiary of United Real Property Trust Ltd. (chairman, Maurice Wohl).

9

photographs by W. J. Toomey



For the past ten years a Lisbon-born architect, Amancio d'Alpoim Guedes, has been practising in Lourenco Marques, the capital of Mozambique, the Portuguese territory in south-east Africa, producing work both original and idiosyncratic to which no attention has been given by the outside world. On the following pages some of his most interesting designs and projects are illustrated. They are introduced in an article by Julian Beinart of the University of Witwatersrand in South Africa, who is engaged on a book about Guedes's work. On the facing page are two of Guedes's buildings in Lourenco Marques: top, a house for an Indian doctor, 1956; the pitched concrete roofs are anchored by three plastered brick chimneys. Bottom, flats on Rue de Nevala, 1955: these are described on page 244.

AMANCIO GUEDES

ARCHITECT OF LOURENÇO MARQUES

'. . . the truth is, that Art Nouveau aborted because it demanded too much, because there was no-one with the imagination needed to take it through.'

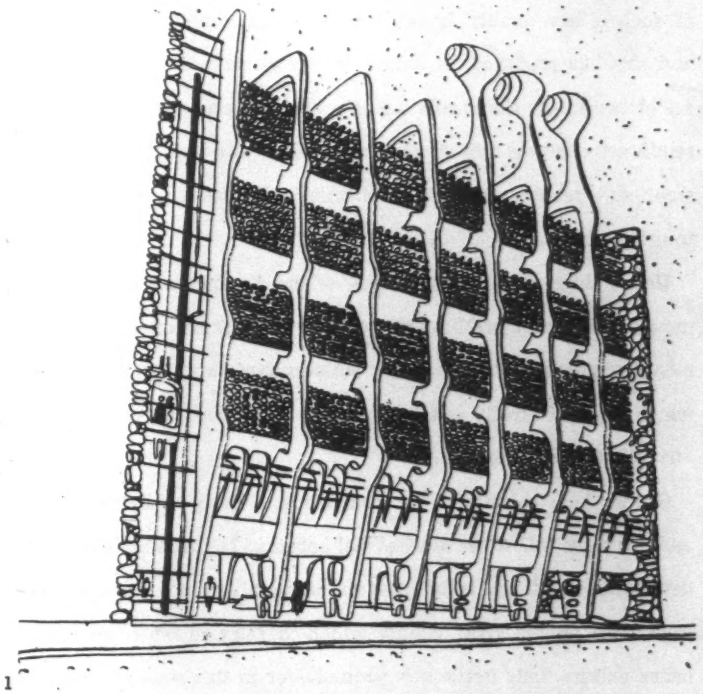
AMANCIO D'ALPOIM GUEDES, 1960

The architectural young men of the nineteen-fifties have indeed had much said at and about them. They have been catalogued, labelled, warned not to retreat from modern architecture, told that the revolution finished twenty years ago—or been allowed to 'wander around aimlessly . . . in a foggy chaos' by Mr. Philip Johnson. Their work is often seen as an expression of their dissatisfaction with the state of modern architecture and they are grouped according to the ways in which they revolt.

Although he does not identify himself with any particular group, his age and complete disillusionment with most of contemporary architecture would undoubtedly earn Amancio Guedes membership of this rather diverse congregation. Born 35 years ago in Lisbon, he grew up in Africa where his father was posted as a government doctor. Immediately after studying in South Africa, he began architectural practice in 1950 in Lourenco Marques, a city of about 140,000 people and capital of the Portuguese territory of Mozambique.

For ten years Guedes has worked intensely at the development of a highly personal architectural expression which, in its variety and significant contribution to its environment, is probably unsurpassed in Africa. Lourenco Marques, like many of the cities on the same continent, has increased rapidly in size but remains surrounded by vast areas of undeveloped wilderness which creep up to its edge.

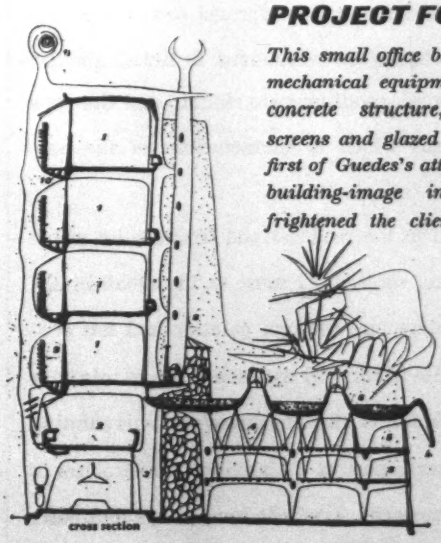
It is a city of lush vegetation (the city tree is aptly named the flamboyant) and much colour. Its inhabitants lead a typically Latin life, enlivening the pavements and streets by their enjoyment of



1

PROJECT FOR OFFICE BLOCK

This small office block and salesroom, 1, for a mechanical equipment firm, with its bone-like concrete structure, glittering ceramic sun-screens and glazed elevator shaft, is one of the first of Guedes's attempts at creating a powerful building-image in the city. The designs frightened the clients who rejected the plans.



key
1, rentable offices.
2, manager's office.
3, showroom.
4, suspended passerelles for access to spare parts store.
5, storage.
6, roof garden.
7, roof lights.
8, concrete fins.
9, access balcony.
10, service ducts.
11, water tanks.

gathering in groups and strolling about outside, relaxing in the numerous open-air cafes and family restaurants and sunning themselves on the beach. This open-air life makes the most of the sub-tropical holiday-like climate of Lourenco Marques, where conditions are ideal for most of the year although a fireplace is welcome for a very short time in winter. Torrential rains are quickly followed by the scorching sun, whose heat in the hottest months is made even more formidable by the high humidity.

Building technology is primitive, and most building is done by small builders who use cheap labour and have little equipment. The standard building medium is concrete, either in block form or cast, and the labourers who work with the concrete are craftsmen who have a natural understanding of the material. Formwork is generally of such a low quality however that plaster covering is essential, and this has produced an almost universal surface solution. Roofs are of two kinds; the locally made, rough, red clay tile roof, and the reinforced concrete roof which requires little waterproofing. Coloured stone and pebbles are easily available and Guedes has used these to great advantage.

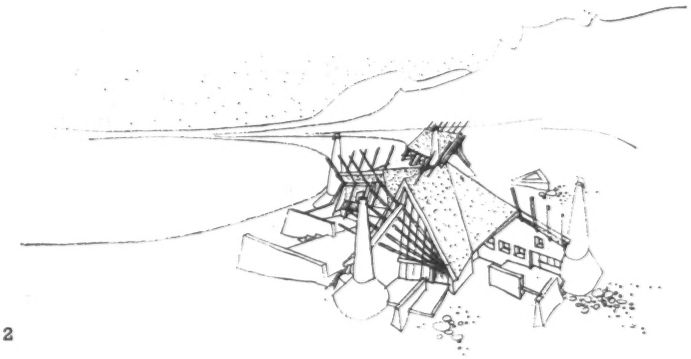
Under these frontier conditions, where the normal chances for money investment are limited, building remains as one of the only means of speculation. The major building types are flats and houses which are built rapidly and haphazardly, with quick return on money virtually the only concern.

Guedes has understood the limitations of such an environment, and has made fullest use of what technological facilities are available, developing traditional techniques and materials in new ways. He has capitalized on the great vitality which is released when an established culture finds fertile new ground—for in this state of coalition between the withering old and the crude unformed new, the opportunities for innovation and change are tremendous. In Brazil, another corner of the Portuguese world, conditions are similar, and Guedes's work has the same impetus which is characteristic of the new architecture there.

Above all, it is his belief in the madness and irrationality which is much of all art, that has contributed most to his architectural idiom. Guedes came to architecture through painting and has continued painting ever since. He is obsessed with the desire to integrate into his architecture the fluid forms which he discovers in his painting and sculpture. For him a large part of the architectural problem is the creation of a series of powerful, symbolic images, spontaneously

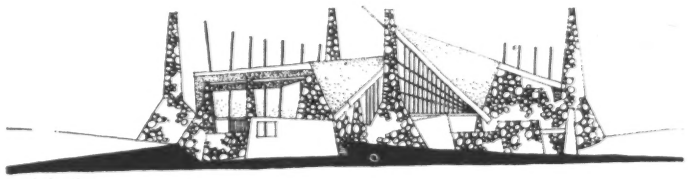
[*continued on page 247*

PROJECT FOR HOUSE IN THE TSETSERRA MOUNTAINS

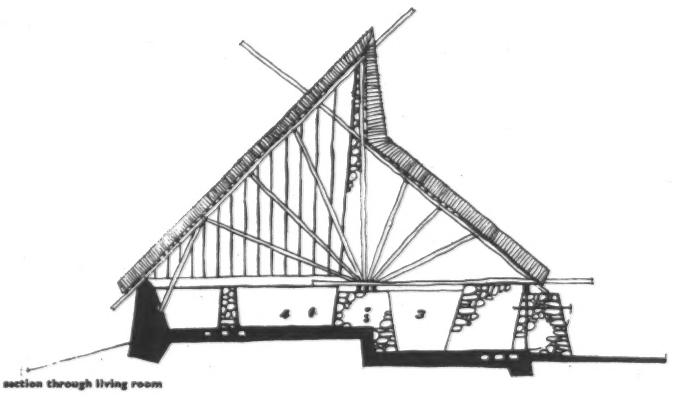


2

This house, commissioned in 1950 by a farmer living on the Rhodesian border, was to have been sited on the edge of an escarpment overlooking the low country around Beira, 2. The house was to have been built of local materials: massive stone wall bases, log rafter trusses and thatch roof. The fanning of the roof members was intended to create a series of immense and complex spaces. The client did not accept the design.

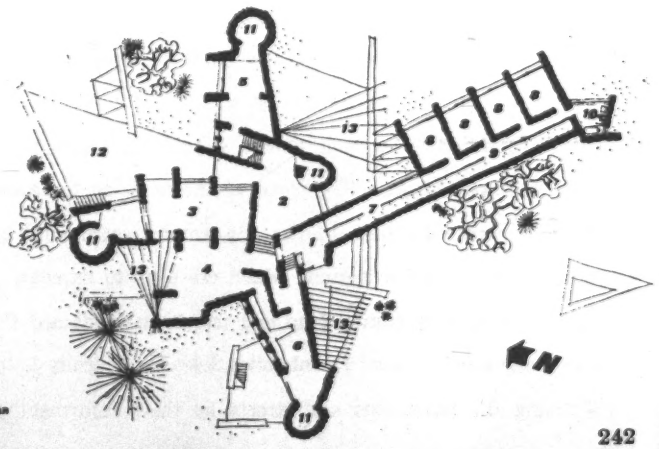


north elevation



section through living room

key 1, entrance hall. 2, inner hall. 3, living room. 4, dining room. 5, study (master's bedroom under). 6, kitchen. 7, services under ramps. 8, bedrooms. 9, gallery. 10, bathroom. 11, fireplaces. 12, terrace. 13, pergolas.

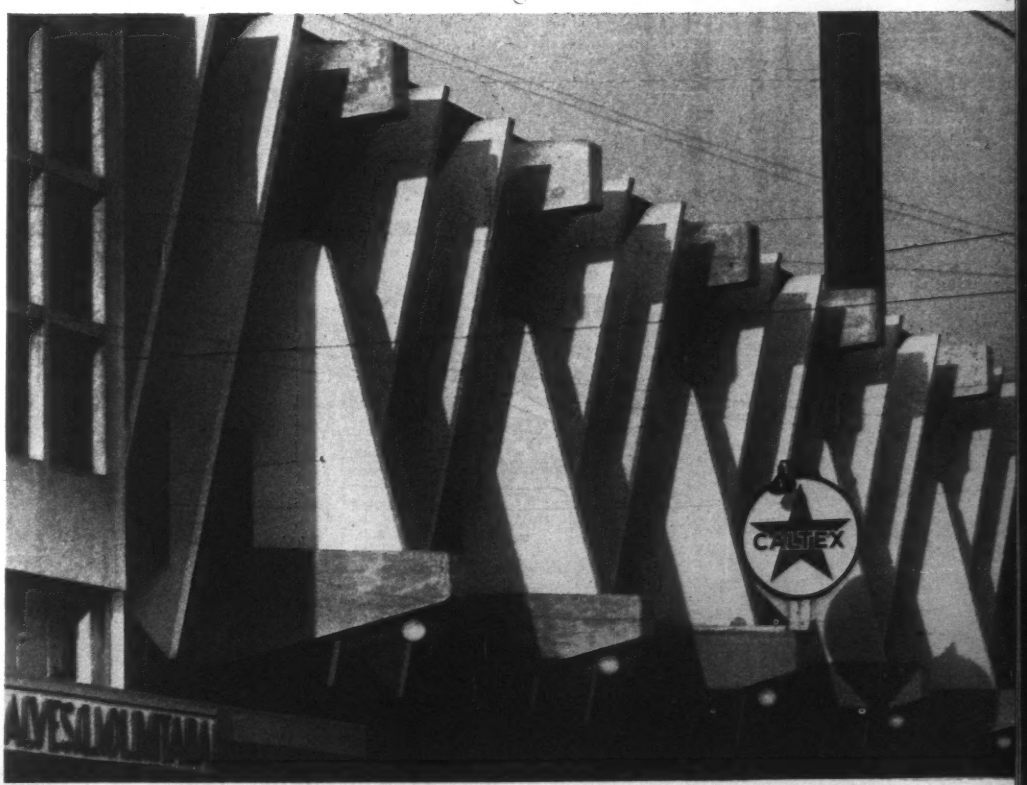


plan

3

TWIN HOUSES

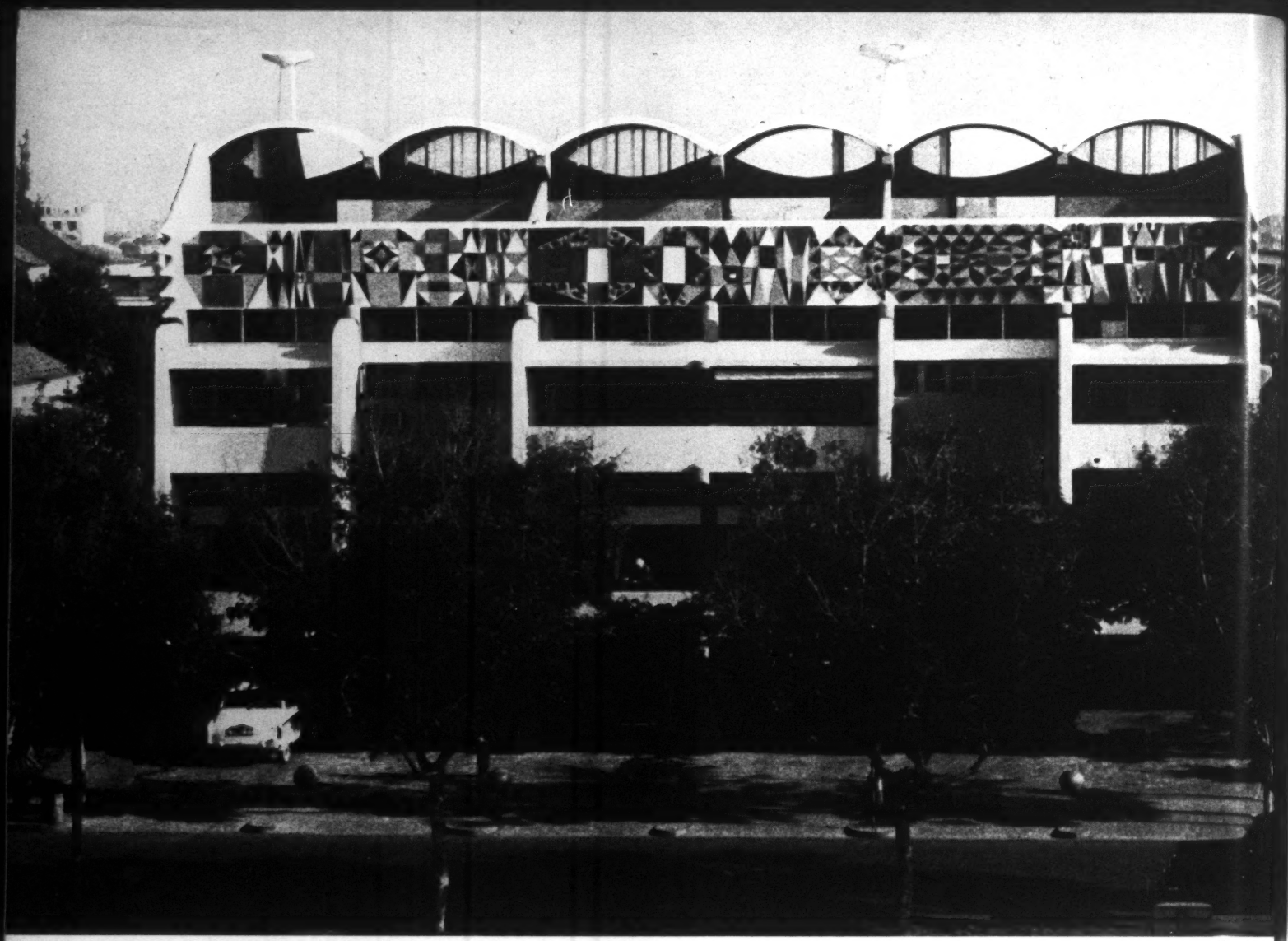
These are two semi-detached houses (built in 1955) in which each house consists of separate blocks on staggered levels linked by ramps and stairs. The front of each house has ironwork balustrades and gates—strongly derivative of Art Nouveau—which mingle in a strange way with the curved cut-out forms of the windows and the bulging forms of the fireplaces. 3, *the side elevation.*



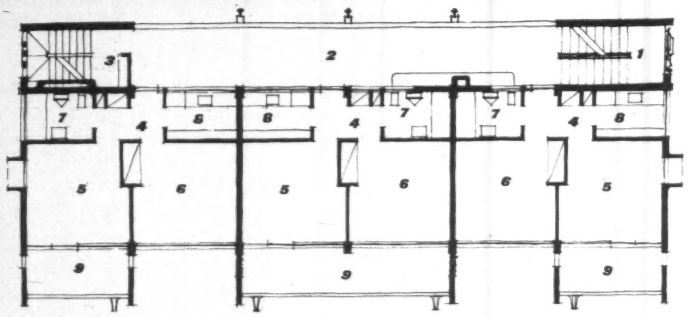
4

OFFICES, SHOWROOM AND SERVICE STATION

This building on one of the busy highways to the centre of Lourenco Marques, completed in 1954, has an office floor, 4, *cantilevered over the service station. The south-west facade of the office floor has fat beams which support the sun-screens above. The building has been badly disfigured by careless alterations.*



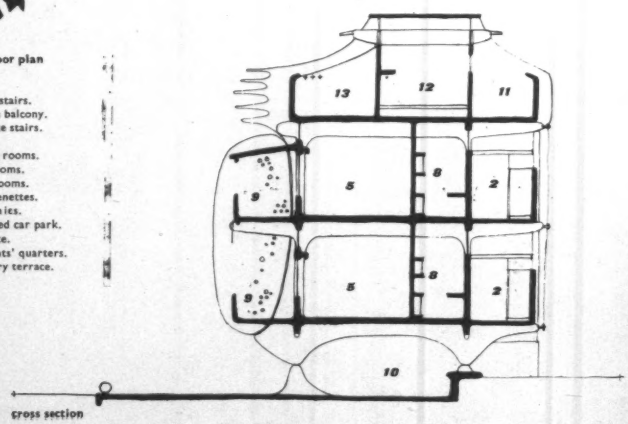
5



N

upper floor plan

key
1, main stairs.
2, access balcony.
3, service stairs.
4, halls.
5, living rooms.
6, bedrooms.
7, bathrooms.
8, kitchenettes.
9, balconies.
10, covered car park.
11, terrace.
12, servants' quarters.
13, laundry terrace.



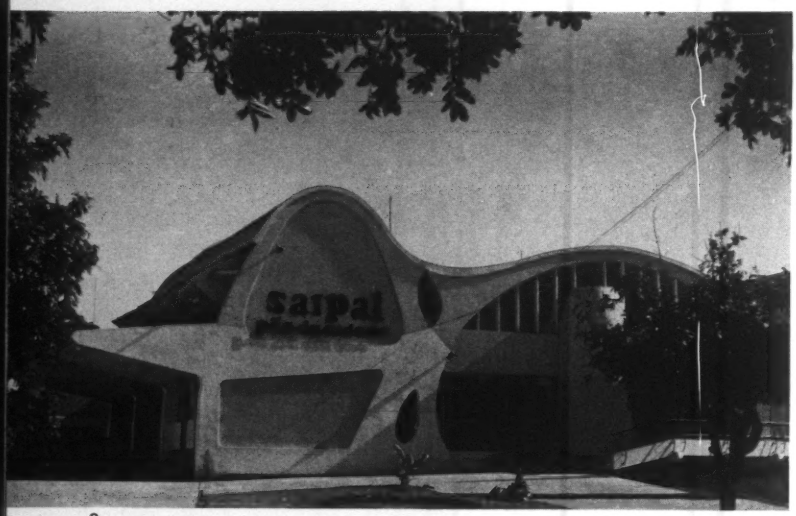
cross section

FLATS ON RUE DE NEVALA

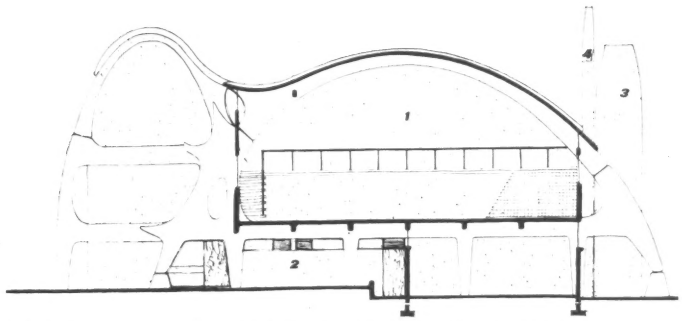
Built for Guedes himself in 1955, *this small block of flats was both an experiment and an investment. Resting on concrete bases which grow out of the ground are heavy arched beams carrying the building. The forms of the side facades appear to slip past each other, intentionally creating feelings of unbalance and anxiety. Servants are housed in small cubicles below the undulating shell roof. The building is covered with stone murals, textures, painted reliefs and metal sculptures, all by Guedes himself.* 5, *private balcony elevation;* 6, *from the east;* 7 *(opposite page), iron and concrete screen balustrade to main stairs.* *See also bottom picture, page* 240.

6

7



8



cross section

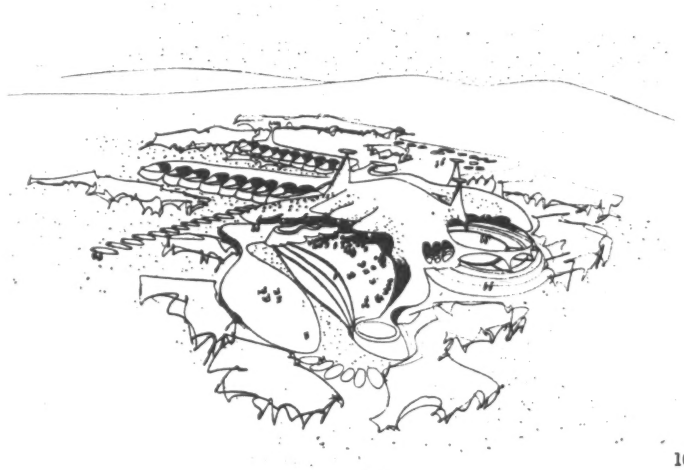
key 1, baking hall. 2, truck parking. 3, water tank. 4, chimney.

'SAIPAL' BAKERY

The form of the arches which support the roof of this bakery was determined in close collaboration with an engineer. The building (completed in 1954*) is entirely of concrete and was designed to provide for future expansion, by repeating the structure at both ends.* 8*, the street facade;* 9*, the internal courtyard, with projecting brackets to accept further structural frames when extension becomes necessary.*

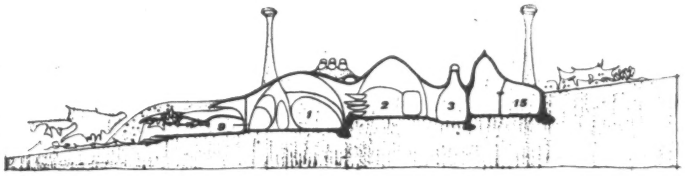
9

HOTEL AT SAN MARTINHO DO BILENE



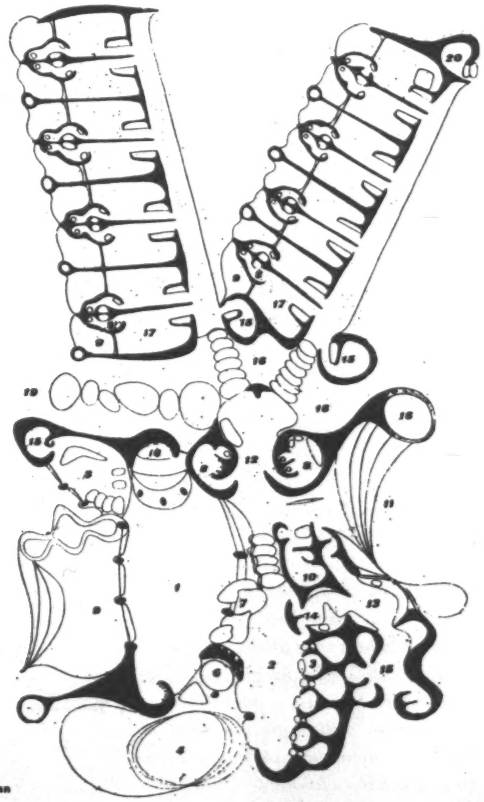
10

The shapes of this building are determined by carefully moulded sandforms upon which the roof and walls are cast as a thin reinforced concrete shell. San Martinho do Bilene is a holiday resort 150 *miles north of Lourenco Marques with immense white sand dunes and lagoons, and* 10 *shows the hotel as seen from the sea. Designed in* 1953 *for a small tourist agency, the project was abandoned through lack of finance and caution on the part of the clients. Guedes has recently designed a house to be built in Swaziland, which creates similar spaces by the use of curving stone walls.*



cross section

key 1, lounge. 2, restaurant. 3, dining alcoves. 4, dance floor (canvas roof). 5, bar. 6, barbecue. 7, waterfall. 8, w.c's."9, terrace. 10, office. 11, entrance. 12, hall. 13, kitchen. 14, servery. 15, service. 16, plants. 17, bed-sitting rooms. 18, fireplace. 19, to beach. 20, boiler.



ground floor plan

continued from page 242]

produced, which transmit emotional and spatial messages with an immediate and active meaning. He wants building 'to have a presence, to be like some vast apocalyptic monster or a gently floating albatross . . . to be so invented as to be remembered forever, like the temples of India and the pyramids of Egypt,' and to achieve this he claims for architects 'the rights and liberties that painters and poets have held for so long.' Consequently Guedes treats architecture not as a profession—selling satisfaction to clients—but rather as a total artistic immersion, in which clients, builders and staff are manipulated and overwhelmed.

Guedes believes firmly that the only way to do architecture is to do it yourself. He works with a group of African draughtsmen he has trained himself—one of them has been with him since he started practice. He delegates no responsibility for design or detailing, and he supervises the progress of the work very closely both in the office and later on the site, often visiting a building several times a day. He has taught an African bricklayer to do the cement work of his own murals, which he provides at cost or even free if the client can be persuaded to accept one. He does his sculptures in the same way, having a skilled African carver working on his premises to carry out the designs under constant guidance and control. In Guedes's back-yard works an African painter and poet who, while working on his own, is part of an environment centred around Guedes—an environment which constantly produces buildings, paintings, sculpture and poetry.

In much of his work Guedes has been concerned with round and spiked vertical forms and their jerky relationships. These forms arise not out of the needs of the material, but out of the ideas which he wishes to express. Concrete is moulded in wet dune sand, in the projected hotel at Bilene, to create a sequence of inflated and deflated spaces which lead from the entrance through the building down to the beach. The roof follows this dune-pattern and contains a stream which flows into and through the lounge. In the Mountain house, log rafters fan from stone bases, to make spaces in which huge fires glow and cast ominous shadows. The Luz Sousa house uses variations of tall chimneys and gable forms to create a wonderland; the service station for Otto Barbosa alternates irregular angular forms to entangle the passing motorist; the assertive revolving form of the Cimentos pylon marks the entrance to a cement factory in Matola. High above the Santos Marques e Silva offices, three spherical water tanks hover while an elevator moves up and down a glazed shaft.

When he works in a cosmopolitan environment, an architect may feel he has to protect himself from the constant bombardment of cultural stimuli. When he works in isolation, however, he acts centrifugally, using what he has locally and finding every possible outside stimulus to enrich and ferment it. Amancio Guedes embraces all outside influence with alacrity. On the one hand he may use primitive marks on corrugated iron shacks outside Lourenco Marques as a departure for his paintings; yet he can still remain obsessed with the sophisticated European Surrealist painters. He is as much involved with the curvilinear stone walls of Zimbabwe as he is with the metalwork of Victor Horta.

His concern for Art Nouveau and the fantastic architects is nevertheless obvious, and for him some of the fundamental buildings of this century are Horta's Maison du People, Cheval's Palais Ideal, Simon Rodilla's Towers, Gaudi's Parque Guell and the houses of Bruce Goff and Juan O'Gorman. Guedes, in his concern for architectural vigour, spontaneity and excitement, follows a long tradition, one to which the master Iberian architect, Antoni Gaudi, belongs. He shows the same preoccupation with a single powerful theme, alienation from the rectangular form and ability to juggle complex shapes.

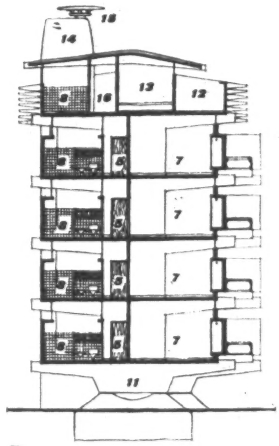
Even when Guedes uses simple rectangular forms, he alternates and displaces these in rhythms which have the same function as his curved and irregular forms, namely that of creating a strong and involving image. In his latest work he has experimented with a system of controlled modular spaces, much as in the work of Louis Kahn, which are then vigorously manipulated both inside and outside. In the innocence and simplicity of Kahn's work, Guedes finds similarities with the child-like themes of Paul Klee and Henri Rousseau. He thrives on the charged quality of seemingly naive forms; his plaster fingers, cigar shapes, metal eyebrows, and some of his murals (based on the insistent geometrical patterns of the Ndebele tribe) are of this order.

Amancio Guedes and some of the young architects of the fifties see the social commitment of architecture not in terms of providing minimum facilities, nor in making these intrinsically poverty-stricken statements pretty. Their concern is not with minima. Their fear is that contemporary architecture has made use of too little too self-consciously. To visualize architecture as a more expansive art, social commitment includes for them also a commitment to those aspirations, irrationalities and phantasies which are a large part of life and an even larger part of art.

JULIAN BEINART

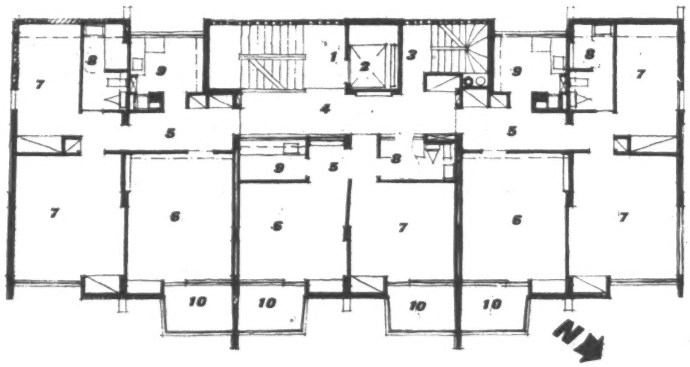
PROMETHEUS APARTMENT BLOCK

Conceived as a cantilever form rooted on a central modular core and precariously balanced on concrete bases, this was the first of a series of buildings aimed at increasing the density of a suburban area. This was also the first time that Guedes used his projecting finger-like forms. The building met with great hostility from local authorities but was nevertheless built as an experiment in 1953. *Opposite page:* 11, *general view from north;* 12, *detail of balconies and protruding beams;* 13, *west elevation.*



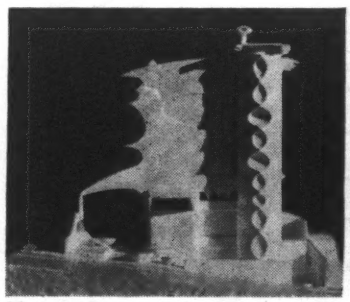
cross section

key 1, main stairs. 2, lift. 3, service stairs. 4, gallery. 5, halls. 6, living rooms. 7, bedrooms. 8, bathrooms. 9, kitchen. 10, balconies. 11, covered car park. 12, laundry. 13, servants' quarters. 14, water tank. 15, chimney. 16, passage.

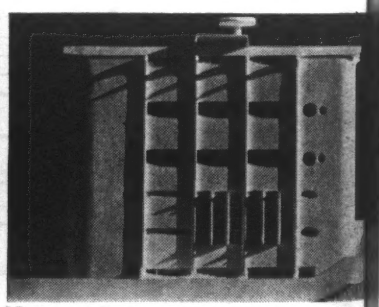


typical floor plan

PROJECT FOR ARTS CLUB

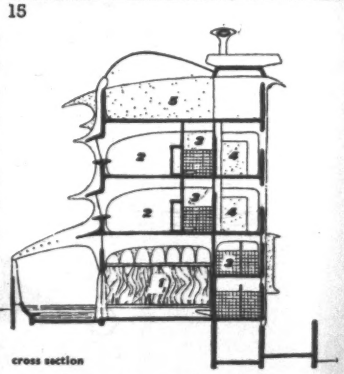


14



15

This project for the Nucleo de Arto was designed in 1954 *as a simple reinforced concrete frame which was moulded and sharpened into a highly personal dramatic form. The members of the club were delighted with the drawings and scale model which were presented to them, and consider the building to be a very fitting symbol for their activities. The design was, as for many other schemes, a donation, and construction will begin as soon as funds are available.* 14, *south elevation;* 15, *street elevation.*



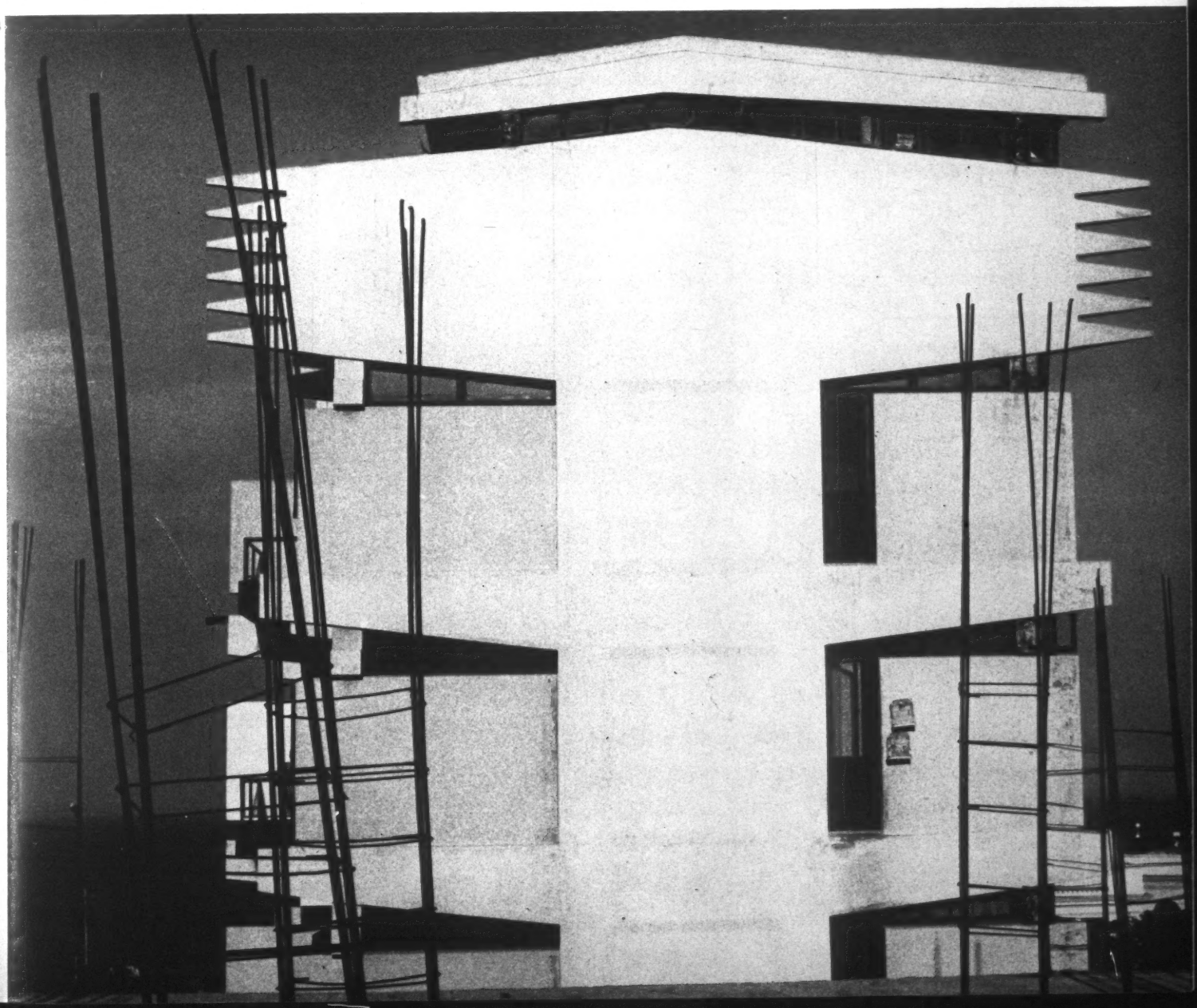
cross section

key 1, exhibition hall. 2, studios. 3, w.c.s. 4, access balconies. 5, roof terrace.

11, 12

Prometheus apartment block, Lourenco Marques.

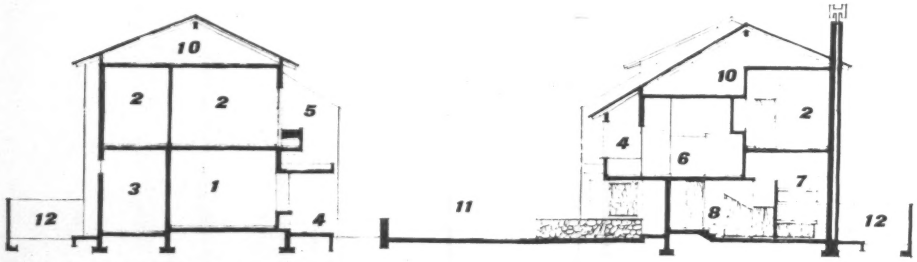
13



16

TERRACE HOUSING

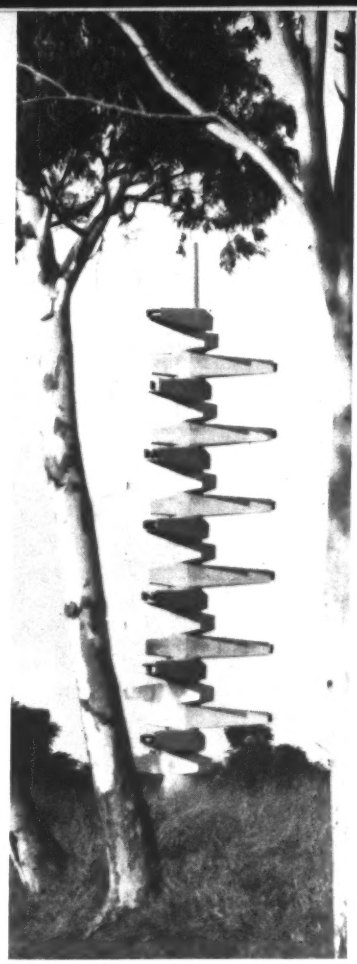
16, *terrace houses on Rue Belgaarde de Silva.* 17, *terrace houses off Miguel Bombarda Avenue* (1956). *Most of these houses were designed for a co-operative society in an attempt to make more personal and profitable use of very expensive land. After construction the houses became the property of the individual members. These developments have proved immensely popular and the concept has been corrupted by speculators. Each house is a compact, self-contained unit incorporating native quarters, car-port and service yard. The staggered, alternating repetitive forms of these group houses are strongly reminiscent of Iberian village architecture.*



cross section through houses off Miguel Bombarda Avenue.

key 1, lounge. 2, bedrooms. 3, servants' bedrooms. 4, verandahs. 5, balconies. 6, family room. 7, kitchen. 8, entrance. 9, garden. 10, storage. 11, courtyard. 12, service yards

17

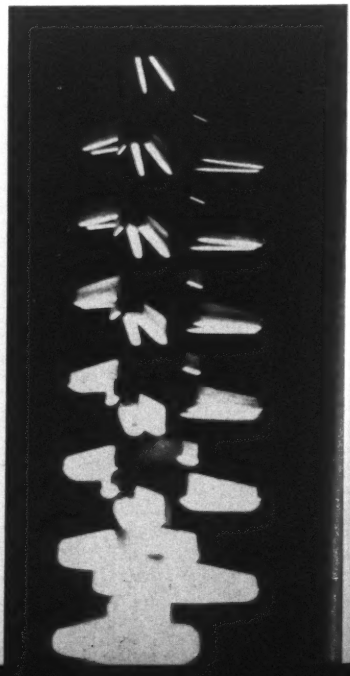


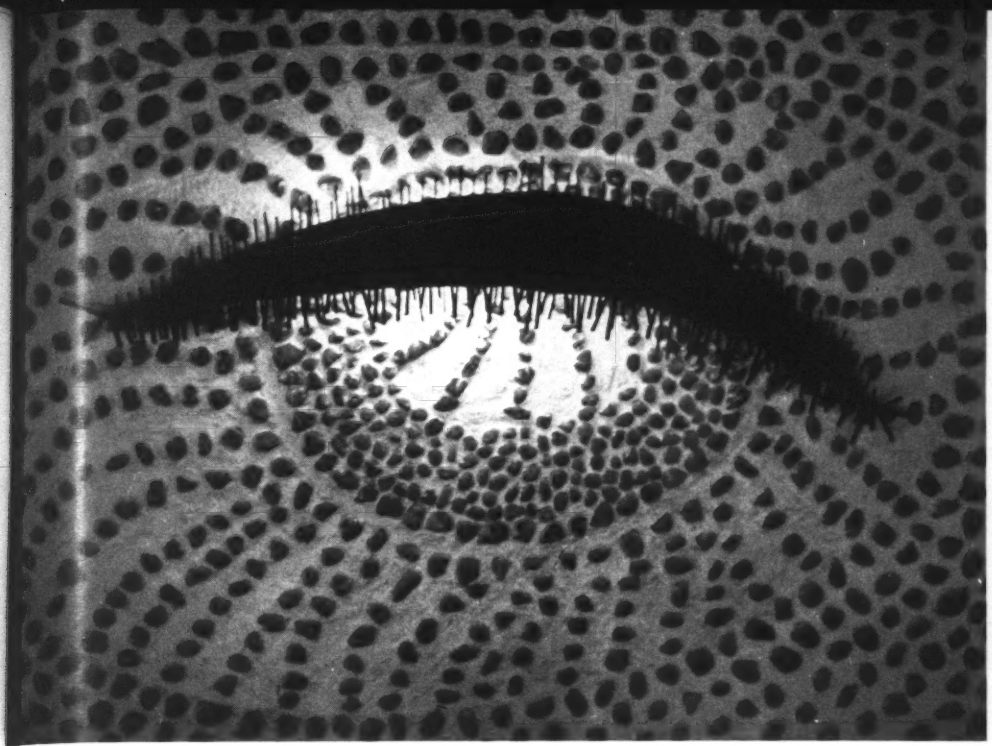
18

PYLON AT MATOLA

Marking the entrance to a cement factory on the main road to Lourenco Marques, this pylon, 18, *is made of reinforced concrete units cantilevered from an in-situ concrete spine. It has floodlights built into the base, which is a concrete disc hovering above the ground.* 19, *the pylon floodlit at night.*

19



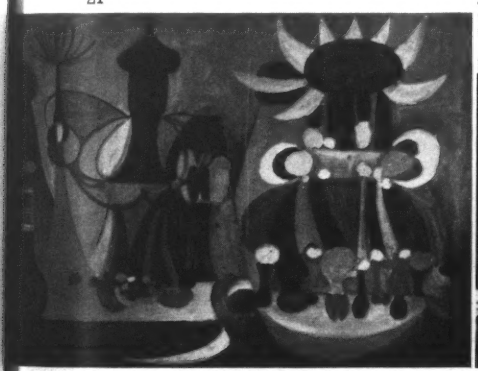


20

PAINTING AND SCULPTURE

Guedes has done several types of mural on his buildings: painted, painted plaster relief, wood relief, stone pebble and stone texture. The detail of a mural, 20, *in an hotel lounge incorporates a light fitting.* 21, *'Boats and Islands' (oil painting* 48 *in. by* 36 *in.);* 22, *painted relief mural in a restaurant;* 23, *pebble mural on an office block. Guedes also designs sculptures which are carried out with a skilled African carver:* 24, *tower (*32 *in. high) and,* 25, *column (*64 *in. high).*

21



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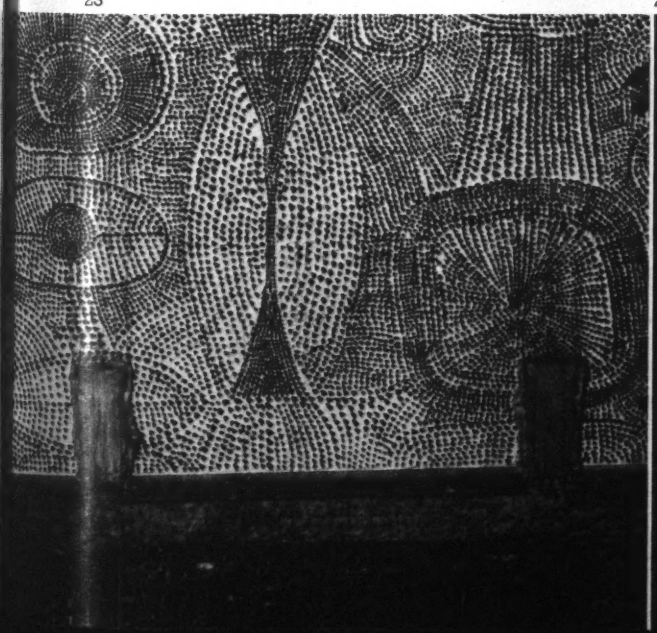
23



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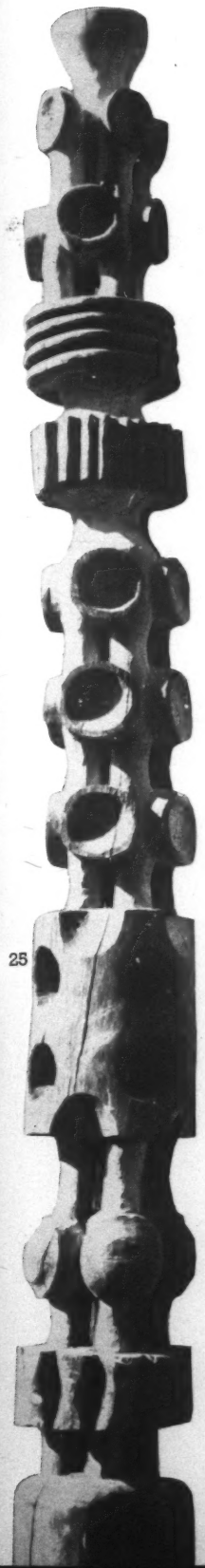
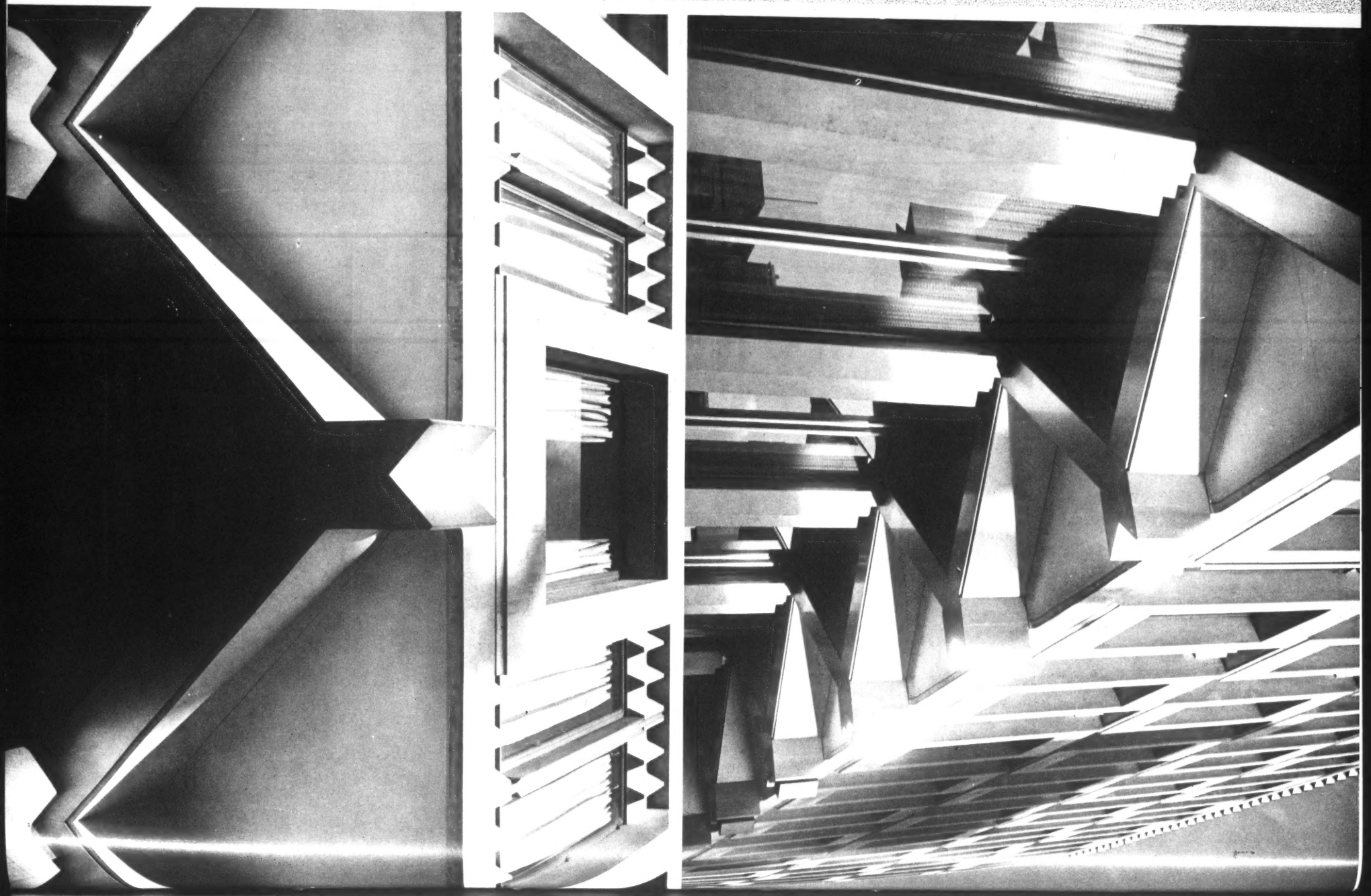
25



Amancio Guedes, architect of Lourenco Marques

U.S. Embassy Building, London



criticism

Fello Atkinson

Architects: Eero Saarinen and Associates
Associate architects: Yorke, Rosenberg and Mardall

U.S. Embassy Building, Grosvenor Square, London

It is curious that, having had for third President that excellent if amateur architect Thomas Jefferson, succeeding governments of the United States should have shown so little interest in Federal building. After the first flush of enthusiasm for L'Enfant's brilliant plan, Washington was allowed to lapse into a state of provincial disorder, with an unfinished Capitol, until late in the nineteenth century. Such lack of enthusiasm for grandeur can be traced, perhaps, to the respective roles given to State and Federal Government, and there can be little doubt that to the kind of Yankee, like Andrew Jackson and Ulysses Grant, who accorded with the popular presidential image, architecture was a luxury associated with reactionary European monarchies—a quite unsuitable diet for the plain-living young republic.

Until the 1890's architecture was more or less a one-way traffic from Europe to America. Americans trained abroad; Europeans practised in America. The American Academy in Rome by McKim, Mead and White was probably the first great American building abroad and it is to be regretted that no other good examples of the Age of American Elegance exist in Europe, for it showed that American architects were to be reckoned with. However, the Academy relied on the private finances of J. P. Morgan; the US Government, seeing no need to use architecture as a diplomatic weapon as France and Germany were doing, continued to house its ambassadors and their staffs in hired buildings.

Only after World War One did the US (faced with a lack of proper accommodation abroad and the difficulty of obtaining it without local friction) pass an act of Congress setting up the Foreign Buildings Operations of the Department of State, to be financed by foreign currency credits. While no buildings of distinction were built between the wars this act enabled $110 millions to be appropriated in 1946 from Lend-Lease and surplus war property funds to carry out an enormous foreign building programme—the most ambitious since Hadrian—in over 270 cities. This programme consisted of embassy office buildings, consulates, staff housing and US information centres.

The FBO set up its own architectural department, which not only designed and executed buildings, mainly in the last two categories, but also prepared the briefs for the private—mostly American—architects on which the programme depends. An Architectural Advisory Panel exists to select these, and what good building has come out of the programme—compared with our own or any other nation it is both very good and very consistent—is a result of the courage and devotion with which this panel made and backed its choices. It is a sign of the growing maturity of American Government machinery that the programme survived virtually unhampered during the worst years of the McCarthyism; of course Soviet proscription of modern architecture helped, but public building is traditionally an easy victim for publicity-seeking politicians.

It takes time to build for government, and most of the more important buildings, nearing completion or completed in the last year or so, were commissioned back in the early fifties. Almost every eminent modern US architect was asked to participate, irrespective of age, origin or size of practice (Paul Rudolph had only built private houses). Distribution of work was fair and no firm of architects was given an overly large slice of the cake, although Skidmore Owings and Merrill did a great deal in the early days, almost certainly because of their ability to cope quickly and efficiently with urgent programmes.

Choice was on merit, and where possible related to place—Raymond and Yama-

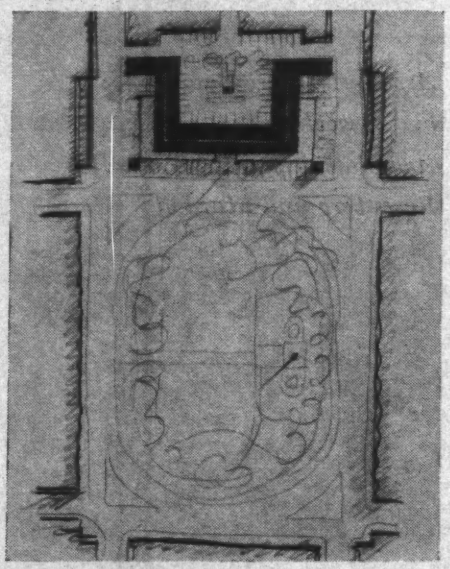
Two details of the exposed ends of the first floor structural grid on the main facade, showing effects of light reflected from the pavement.

saki in the Far East and Saarinen in Norway. Undoubtedly this matter of suitability weighed heavily in the minds of the advisory panel. To quote from the State Department's instructions: 'to the sensitive and imaginative designer it will be an invitation to give serious study to local conditions of climate and site. To understand and sympathize with local customs and people and to grasp the historical meaning of the particular environment in which the new buildings must be set. . . .'—praiseworthy but hardly meaningful when many of the parts of cities in which these buildings were projected are either new or mushrooming with brash commercial modernism. Such suggestion one feels may have caused architects to seek desperately (in their brief, but mandatory exploratory visits) for local gimmicks to hang on their architecture. Thus Stone—successfully—makes use of Mogul fretted screens (in aluminium) for his New Delhi embassy; Weese pretends to use an inverted mud palace for Accra (in reinforced concrete) and Gropius creates a pleasant if dull neo-classic temple for Athens, faces it with Pentelic marble for good measure and even allows the late sun to pierce the Achilles heel of its curtain walls. Nearly every design pays lip-service to the imprecise directive. This seldom harms a design; often it helps it; but there is the reflection that it may have brought about here and there a superficial solution.

The State Department's directive was particularly stressed in the matter of the London building. Not only is London the most important embassy, but Grosvenor Square has a special significance for Americans, not easily understood by the British. When John Adams came reluctantly to London (Paris, the more desirable post, had gone to Jefferson) as first American Minister in 1785, he rented No. 9, the charming house in the north-east corner of fashionable Grosvenor Square, then on the fringe of the Marylebone Meadows. The legation did not stay long in the square, though it remained in the area in houses which must have reminded successive Adams's (three held the post of minister) and other Bostonians of their Beacon Hill homes, built on the London model by Charles Bulfinch.

Yet in 1913, twenty years after Bayard came as first American Ambassador, Walter Hines Page still had to find his own residence, and chose No. 6 Grosvenor Square, almost next-door to Adams's first legation. At that time the inadequate embassy offices were in dingy Victoria Street. Since then the various offices of state have gravitated to the square until it has become identified with the United States. When the decision was made to build new embassy offices on the west side of the square all concerned were understandably (if mistakenly) overawed by the problem.

Grosvenor Square is of course no longer Georgian. It was so when John Adams lived there, but went to pieces in the nineteenth century. To restore the situation that astute man of property, the late Duke of Westminster, commissioned his



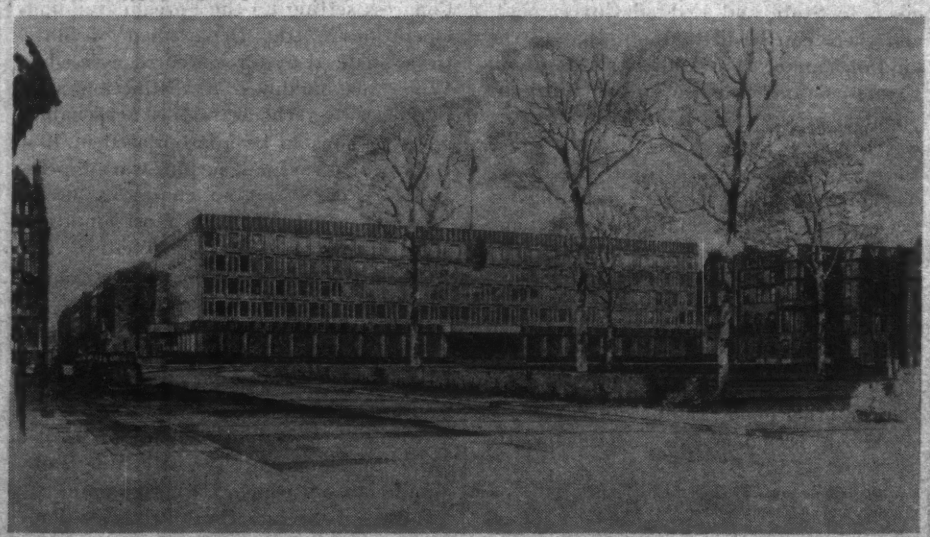
1, one of Saarinen's many sketches of the site plan showing an attempt to strengthen the corners so as to maintain the square in spite of the shorter façade. This sketch also shows the original open court.

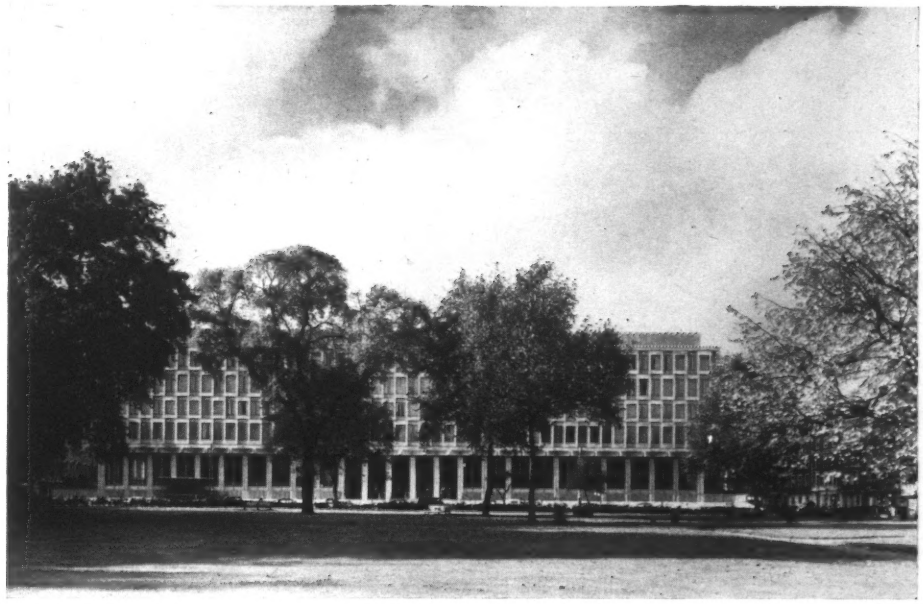
surveyor, Detmar Blow, to prepare a master scheme of elevations to be imposed by covenant. These façades were designed in the then fashionable Park Lane (Blomfield) Louis XV, and though without distinction have the merit of comprehensiveness and scale. Depression and war retarded their fulfilment. However, much of the north side and part of the east have now been completed, and in the near future the south seems likely to be rebuilt. The gardens were also neglected, the railings were removed and regrettably have not been put back. In 1947 the Square was replanted with a few plane trees and rather meanly ornamented with a flaccid statue of Franklin D. Roosevelt, given by the British peoples in recognition of the Grand Alliance. The trees when grown will play a considerable part in the scheme of things, but even they cannot alter the fact that the square is too big and its centre without mystery or meaning.

So important was the new building considered that for the first and only time under the FBO programme it was decided to hold a limited competition. Sensibly the Grosvenor Estates did not insist on a neo-Georgian façade. With less assurance the assessors, Dean Belluschi, of MIT, the only confirmed modernist, Harry Shepley (whose firm still bears the name of Bulfinch) and Ralph Walker, a former president of AIA, imbued perhaps with a '*plus royaliste que le roi*' attitude to the Square, alluded to a neo-Georgian façade, and that is what they got, or as near to it as a modern architect can easily come. That is not to say that things could have been otherwise; at the time and place they probably could not. In any case the competitors (some, like Wurster, whose Hong Kong consulate is one of the best FBO buildings, were certainly chosen for their moderation) having made hasty visits to London during one of the worst winters of our post-war discontent, all turned in dullish schemes with small windows. Two of the schemes showed promise and of these Minoru Yamasaki's looked the most interesting. Using the richer sinuous surface treatment then beginning to replace the Miesian severity so long in vogue in the US, Yamasaki produced an elegant pastiche of Barry's Houses of Parliament.

[continued on page 257

2, Saarinen's official competition perspective (intended to look like an English watercolour!) shows a lower piano nobile than on the finished building, projecting canopies and a black bronze cornice.





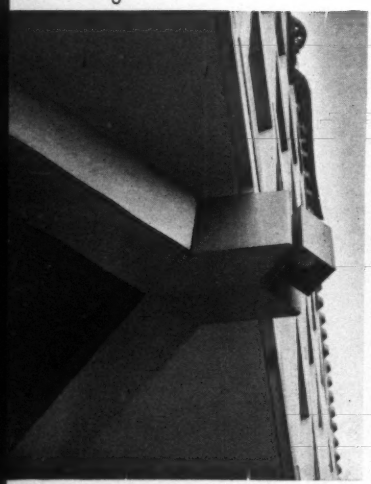
3

3, the embassy from across Grosvenor Square. 4, from the south-east. The programme was changed after the competition award; the design therefore varies from the sketch (2, opposite), a lower floor was added, raising the height of the piano nobile. The change was welcomed by Saarinen who felt the original was too squat. The linked frames on the other hand have, in the view of the writer of the accompanying article, lost some of their original elegance.

4

5, the standard light fitting that is set into the exposed ends of the diagrid around the perimeter of the building. 6, close-up of one corner, showing the rich effect of the window mouldings. When looked at thus with the beam ends and corners, some of the excitement which one feels should have resulted from the whole facade treatment momentarily shows.

5



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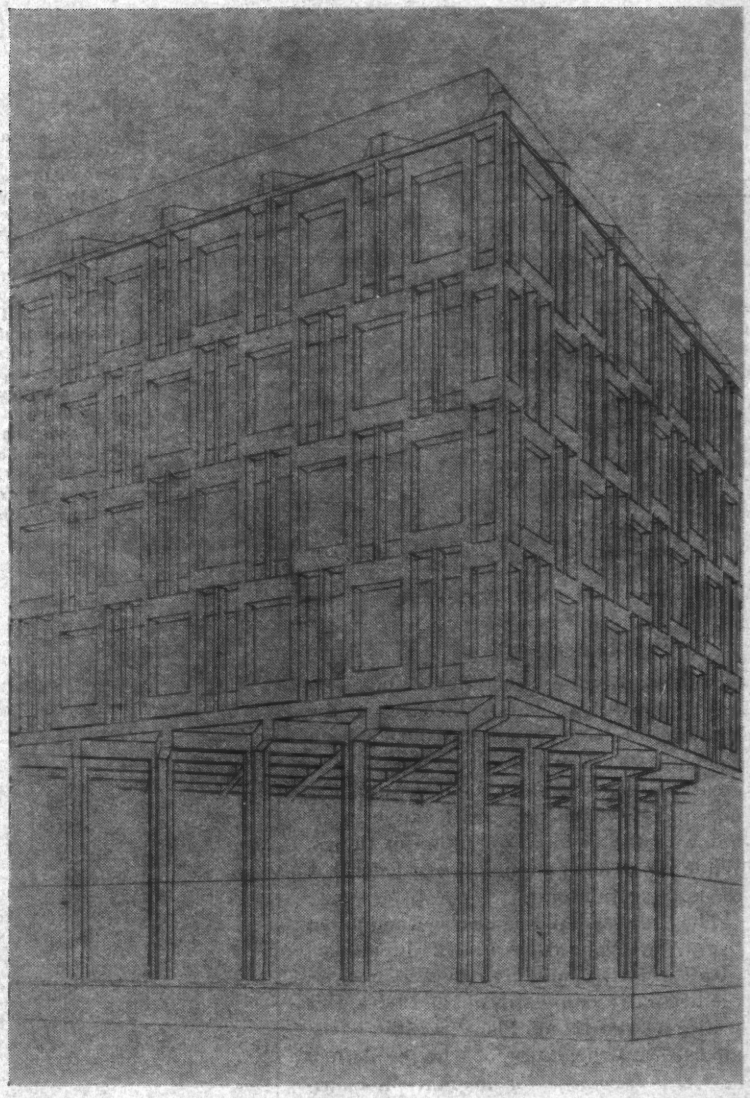


The diagrid was not part of the original design and only developed out of many post-competition drawings. 7, the final version with diagrid and cruciform columns fused into a single system.

continued from page 254

It had the merit of extending the whole width of the site but seemed underscaled, as well as slightly frivolous.

Though the word embassy evokes a palace like the Farnese, in fact today it is little more than a block of offices, the majority of which are very small. Eero Saarinen, as an old hand at competitions, realizing it was a problem in 'façadism,' made more of the exterior than his rivals. There was virtually no plan to his scheme, and what there was has since been radically altered—the original courtyard has been filled with the large consular office and major changes made to the entrance lobby —yet the elevations have remained much the same.

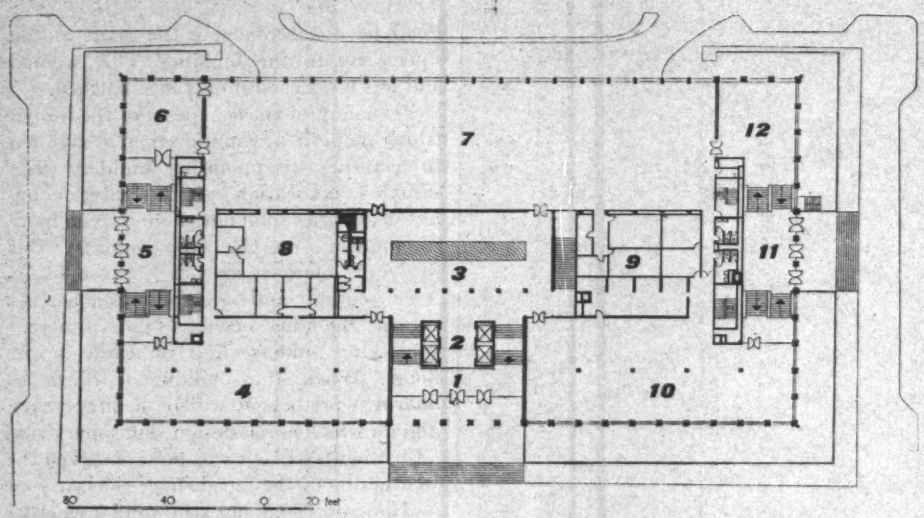
Saarinen is perhaps the best 'pro' of his generation, comparable with Barry and McKim in his ability to assess a problem and answer it in terms at once modish and workable. In many cases his clients have been flattered by apparently unique solutions. Further, perhaps because of his long association with his father, whose buildings belong to the same tradition as those of Webb and Ostberg, he has a sense of fine craftsmanship and an ability to manipulate techniques. His winning scheme in the embassy competition was unquestionably the most polished. Saarinen avoided the Georgian window bias by a façade of interlocking chainlike frames which could be read either as a solid wall deeply punched with windows or as a glass wall overlaid by a stone screen. He also gave great emphasis to the ground floor by raising the upper floors on a peristyle and a 'false' podium. Saarinen has likened this to a 'Greek temple' and the effect is enhanced by the unemphatic central entrance, the triglyph-like expression of beam ends and the entablature-like top storey. All these elements remain in the final version, while the podium, instead of merely being a security wall hiding the lower ground floor windows, has become a glacis of coarse, almost vermiculated, Portland stone sweeping the plane of the square up to the building. This seemed odd but is successful now it is finished.

Yet many of those aspects of the design which made it a winning scheme have led to a rather disappointing building. The visual equivocation of the interlocking façade, neither solid nor glass, is even more pronounced—on the Oslo embassy this device is more successful because of its finer section and greater elegance. At present the stark newness tends to accentuate the underscaling of these upper floors. When the building is dark, as Saarinen predicts it will be in fifty years, and for which he has designed it, some visual adjustments will occur. I have observed the weathering of the façade over the last year and am impressed, but still wonder whether London will remain as dirty as Saarinen romantically hopes.

The gold aluminium which showed promise of being both rich and quiet looks at present thin and tawdry (externally) and is only really successful on the underside of the exposed ends of the diagrid where it catches reflected light from the pavement. There is everything to be said for gilding, and Saarinen may well have had in mind the marvellous combination of velvety black stone and gold leaf, seen in London but more often on the Continent. In comparison the pallidness of aluminium against white stone is anaemic.

Finally the 'Greek temple' theme does something odd to the square. James Cubitt some time ago pointed out that by setting back the new embassy 40 ft. the continuity of Audley Street is lost. 'The Square,' he wrote, 'is too big anyway, I see no sense in enlarging it.' (*Westminster Review*, June, 1958.) *The Times* architectural correspondent also recently noted that the unity of the square has been disrupted by the failure to build to its full width. The thing about London squares is their enclosure, most skilfully achieved in Bedford Square, where the sides are really palace façades with a slight movement of recession and projection in the centre and the ends (which are not returned). The temple, traditionally and pictorially, is an isolated block seen all round and raised. Since this is what happens now with the Embassy, Grosvenor Square oozes out into Park Lane. When the new trees flanking the building are fully grown, extending the square around the embassy, this defect will be lessened, but if this new image—the temple in a grove—is to be viable the whole planting of the Square must be seriously reconsidered and made more directional.

For all their variety many of Saarinen's buildings have a strong streak of puritanism; they are almost colourless and lit coldly like a Dutch interior. It is as if he is



ground floor plan

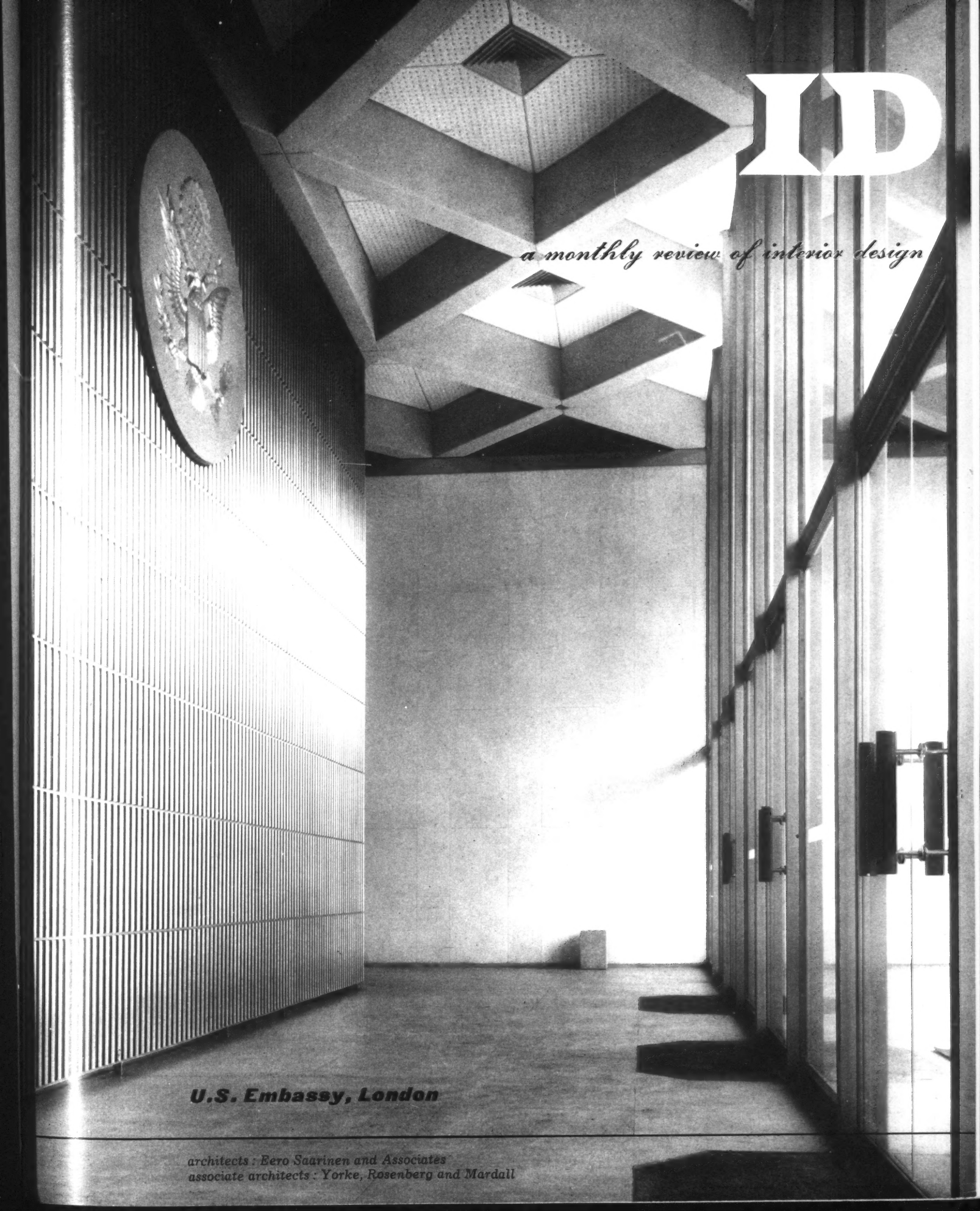
key
1, entrance lobby.
2, lift lobby.
3, main lobby.
4, passport section.
5, consular lobby.
6, consular waiting room.
7, consular offices.
8, filing.
9, library offices and cataloguing.
10, USIS library.
11, USIS lobby.
12, exhibition space.

The main entrance lobby of the US Embassy, opposite, utilises the full height of the column structure under the diagrid ceiling to create an air of ample monumentality. The finishes present broad simple surfaces in keeping with this aim: a fully glazed door-screen carried in gold-anodized aluminium mullions; a travertine floor; polished white marble walls almost free of veining and a screen of close-set gold-anodized aluminium sections, covering the end of the lift lobby and carrying the Great Seal of the Union, the only decorative or symbolic element seen by the entering visitor.

at his best when designing austerely, as in his Lutheran churches and colleges in the middle west. This is far from unattractive; but it makes one suspect that the 'temple' is a more sympathetic paradigm, than the 'palace' to the northern protestant mind. Whatever one's thoughts on this matter, Saarinen has carefully followed the height of the 'New' Grosvenor Square, which when extended west may well achieve the kind of four-dimensional planning so skilfully done in Rome and so hamfistedly here. 'Sometimes the most daring thing is not to be daring but to be conservative,' he says.

Surprisingly it is the interior of the building, so unimportant in the original conception and such unlikely material in this type of architecture, which is the most successful part. From the moment one ascends the steps ('I think you do get up quite high without noticing it very much' Saarinen) one senses all those things which have made the architect his reputation. Restricted by an almost impossibly rigid planning problem, unable to gain much spatial variety, he has yet achieved a fascinating interior. Saarinen has raised the podium slightly higher than in his original scheme and one certainly looks upon a London square from a new viewpoint at *piano-nobile* level. However, much has been sacrificed to the grandeur of this *piano nobile* and it is a pity—for example—that the canteen in the basement which could have been spectacular, should suffer from lack of height. The upper floors consist almost entirely of small offices. Yet even from these Saarinen has made a quiet, disciplined elegance out of corridor width, door rhythm and meticulous detailing, which achieves a separation of walls and ceiling in an almost Japanese way. Indeed it is the fastidiousness of the detailing—raising standards of finish in England to a new level—which is the greatest contribution. Such detailing is not merely concerned with appearance but with the feel and operation of things. While not in itself architecture it heightens the appreciation of it.

The embassy building has been compared (by J. M. Richards in a BBC broadcast) with the RIBA building, which represents the decorative standards of the 1930's. But while 66 Portland Place went to the modish superficialities of the *Exposition des Arts Decoratifs* for inspiration, Saarinen seems to have returned to firmer ground—the Jugendstil of the 1900's. It is no coincidence that *Art Nouveau* exhibitions were held in both New York and Paris in 1960 and that two books appeared on Gaudí. Saarinen, while no 'form-giver', is extremely sensitive to changes in taste. At first glance the conjunction between diagonal (structure) and right angle (plan) is merely awkward, arising out of a transition from the earlier Miesian to the newer plastic phase. Yet it is nearly always resolved well, sometimes beautifully, giving rise to complex faceting, and points to the growing liberation from the De Stijl cage in which the modern interior has so long been imprisoned. The light palette, white paint, white marble, travertine and gold (internally most successful) creates an ambience which also recalls the interiors of Mackintosh and Hoffmann, and though one should not judge without the complete furnishing—so vital to such interiors—its quiet elegance is sheer relief after a decade or so of cheap and dowdy gaudiness.

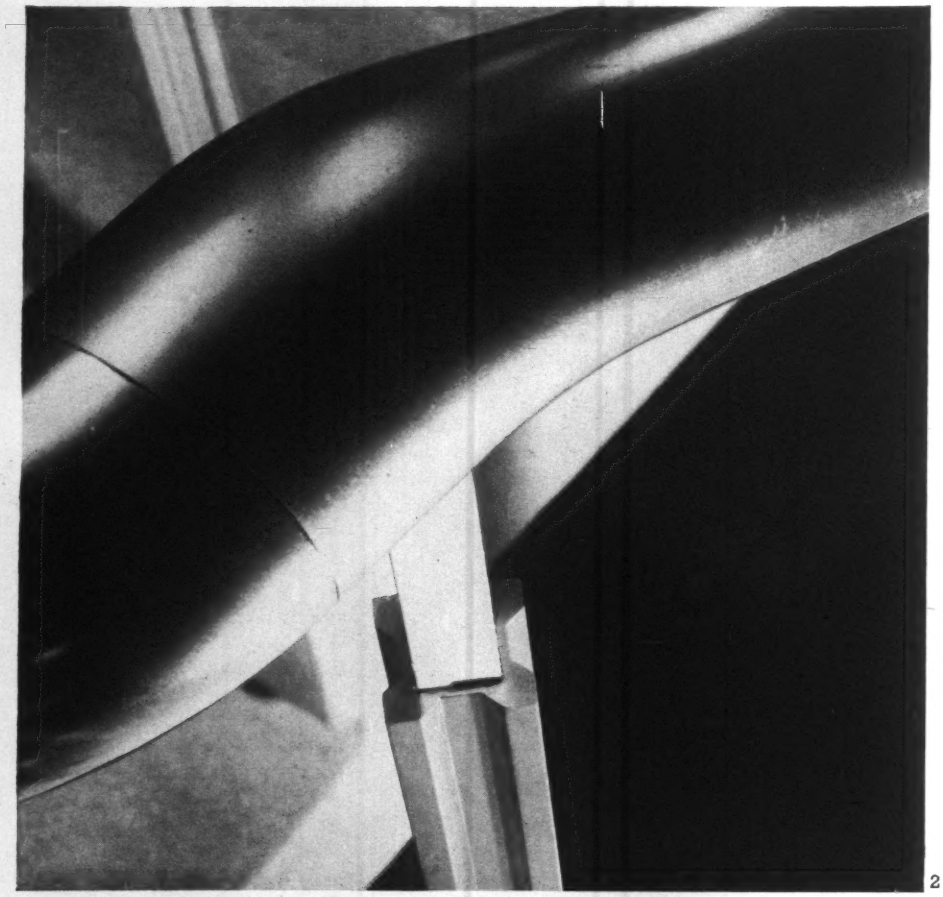


ID

a monthly review of interior design

U.S. Embassy, London

architects : Eero Saarinen and Associates
associate architects : Yorke, Rosenberg and Mardall



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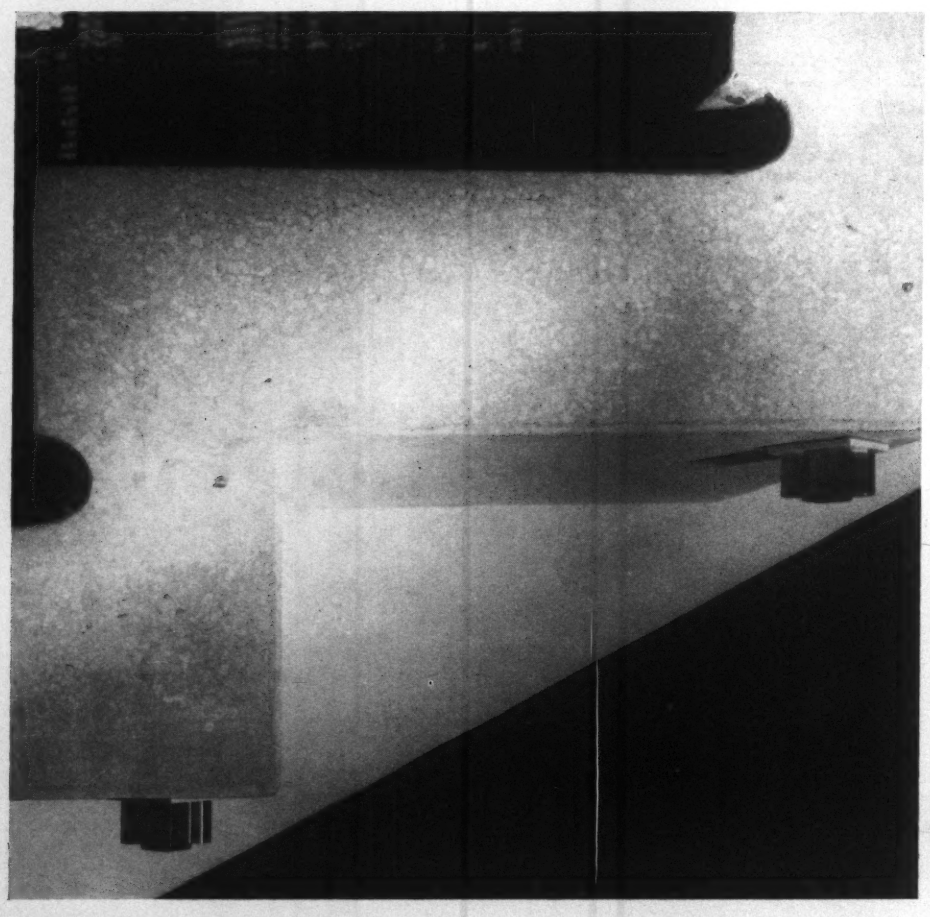


3

2, handrail of the main staircase in the north (USIS) lobby, at the point of turn on the landing (the equivalent detail in the Consular lobby is seen in 4, below). The finish is the standard gold anodising, and the banister supporting the rail has a cruciform section echoing the form of the main structure.

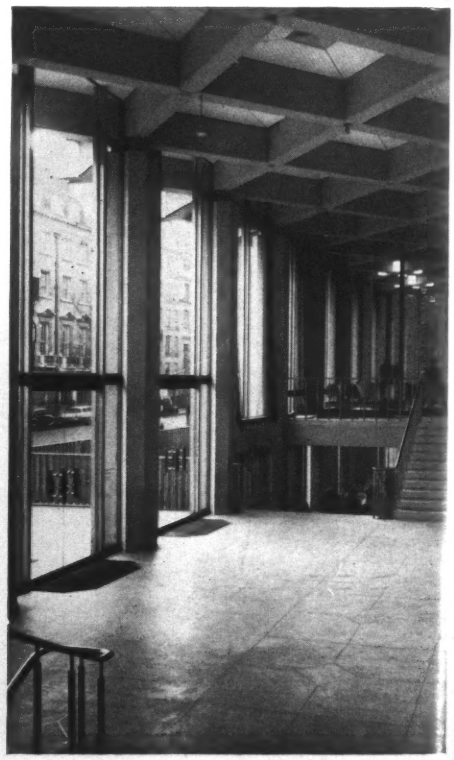
3, the cruciform theme is pursued with consistency through much of the detailing on the main floor, revealing itself here on the heads of the bolts that secure the banisters underneath the stairs.

4, the south (Consular) lobby looking west from the landing of the Passport Office, with the entrance on the left.

5 (opposite), the USIS library from the entrance end, with purpose designed bookshelves and tables, and the special chairs designed by

lobbies

4



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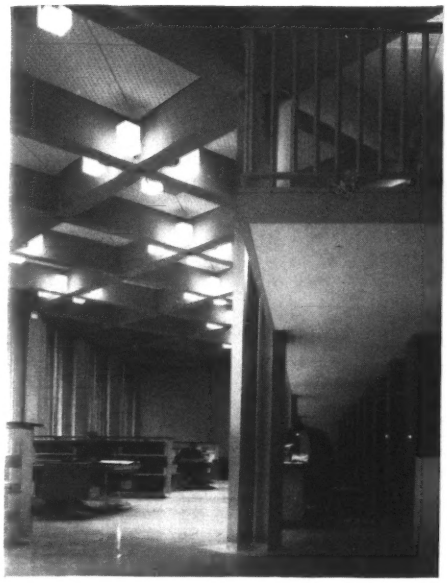


library

Saarinen for the Embassy (see 16, over page). The balcony for further book-stacking engages the columns of the main structure visually, but not structurally, being cantilevered forward from the stacks below.

6, detail of column and balcony edge at point of non-engagement ; the smallness of the clearance is seen, as well as the manner of cladding the structural column in its gold-anodised sheath.

7, stairs from the entrance lobby up to the main lobby, with the lift-lobby screen at right.

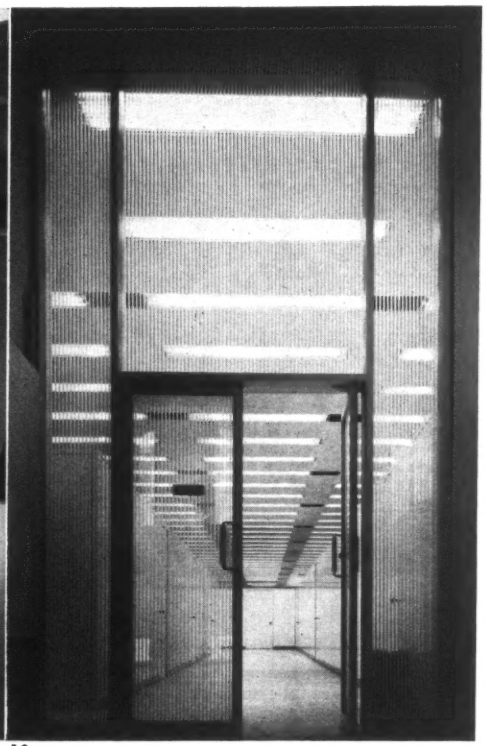
8, the main lobby seen from the consular side, looking over the travertine-lined pool and fountain towards the lifts and lift-lobby. Diffused daylight enters by way of plastic-screened laylights in the interstices of the diagrid.

6

8

main entrance

7



9 10

consular offices

U.S. EMBASSY, LONDON

11

auditorium

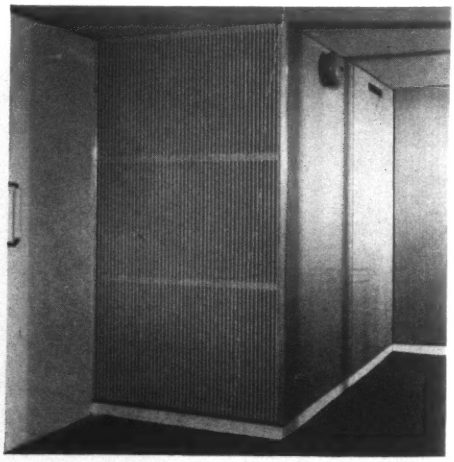
9, the Passport Office, which matches the library on the south side of the main front of the Embassy. The heavy green net curtains are standard for all public rooms at this level.

10, glazed screen at the entrance to the main consular office space. Through the door may be seen standard office partitioning faced in white plastic and the continuous suspended ceiling.

11, the Cultural Division's auditorium, seating 180 persons. The suspended ceiling is in faceted recessed panels, set on a diagonal that echoes the cruciform theme, seen again in the re-entrant faces of the foreground columns screening the foyer.

12, air-conditioning grille in the foyer

12



13

14

cafeteria

of the auditorium.

13, 14, the cafeteria and its adjoining corridor. Though this room is in the centre of the basement floor and entirely artificial in lighting and ventilating, careful manipulation of the illumination and acoustics avoids any sense of claustrophobia.

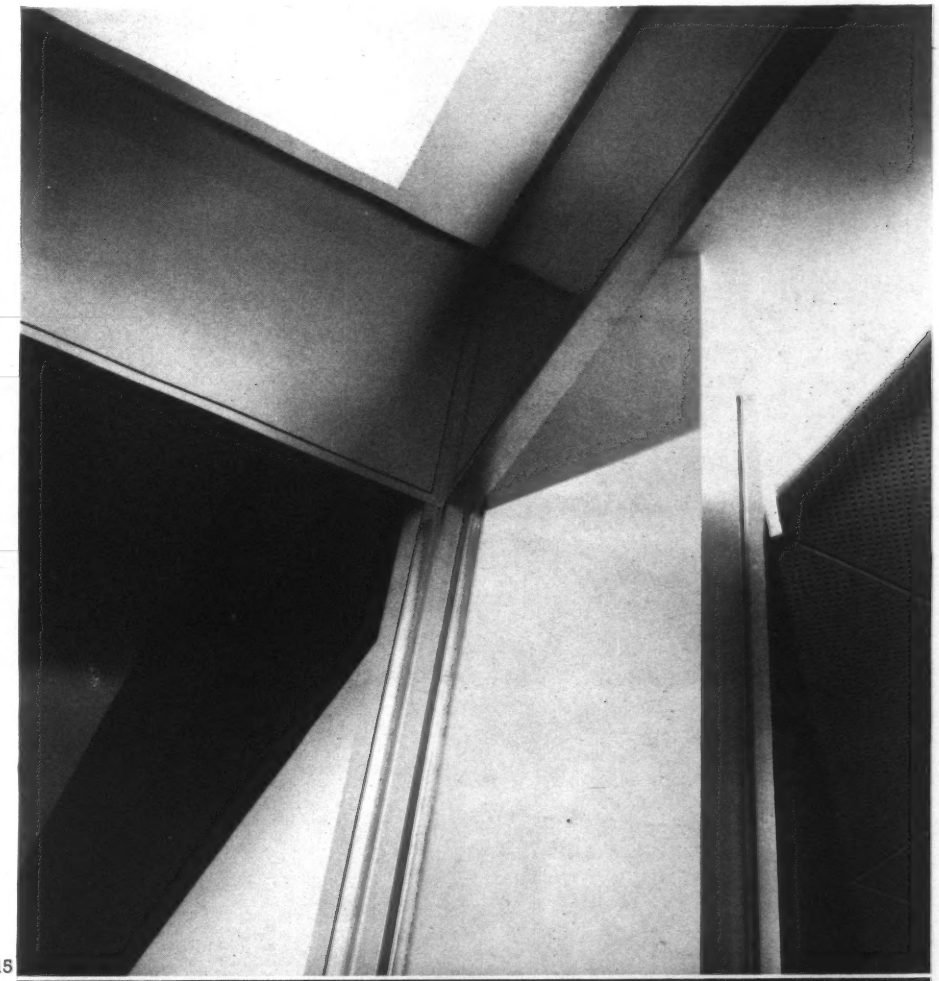
15, detail of the junction of the beam system of the corridor vault (see 13, above) with structural columns and lighting cove at the edge of the main cafeteria ceiling.

16, the special restaurant, also in the basement, adjoining the cafeteria and served directly by the same kitchen.

17, one of the massive, leather-covered chairs, purpose-designed by the architects for this restaurant, but used wherever occasion demands in other parts of the Embassy, such as the library (see 5, page 260).

restaurant

16



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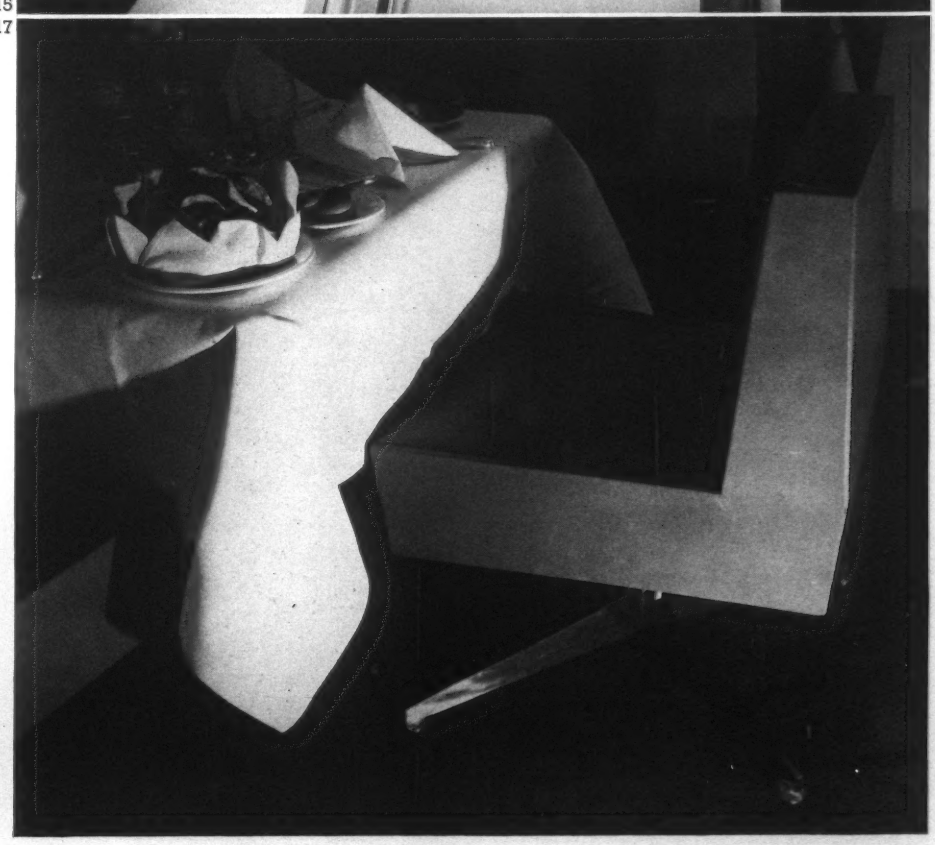

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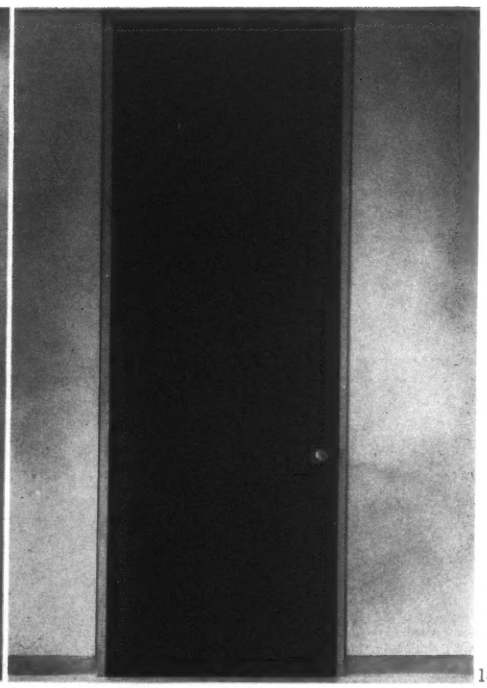

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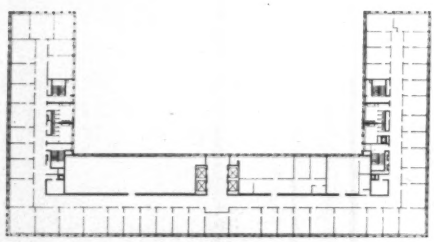
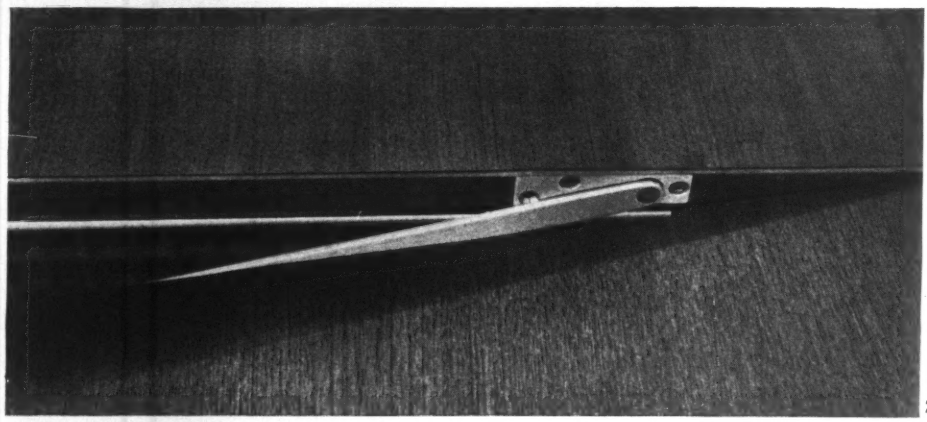


arrangement of standard office floor



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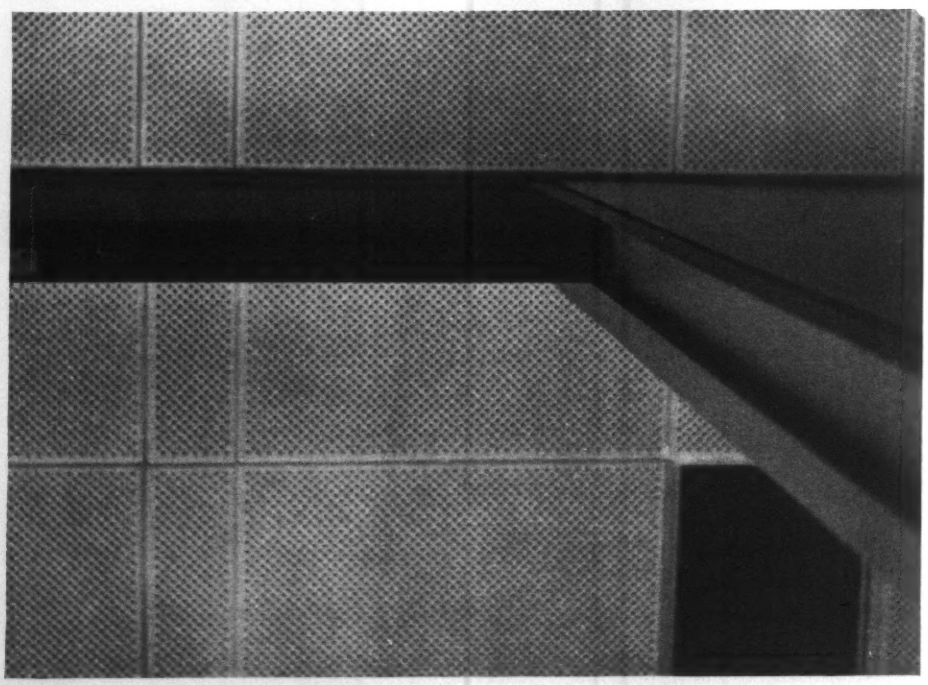


21

office floors

18, standard window detailing in an office on an upper floor; the dark mullion between the opening lights corresponds to one of the gold-anodised mullions of the exterior views.

19, a standard office door on the same floor—door and super-port, both veneered in the same wood, make a visually continuous wooden panel from floor to ceiling, the crack that separates them concealing

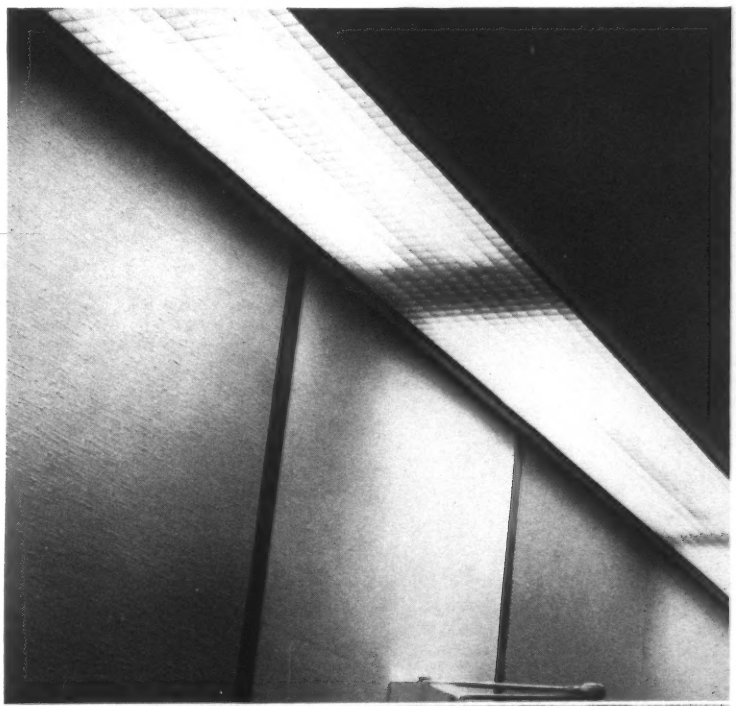
20, a slim door-stay secured to the super-port and sliding in the doorhead.

21, relationship of the module of the acoustic-tile ceiling to the lighting troughs and a standard partition (the narrow tiles are the same dimension as the thickness of a partition.)

22

offices

22, interior of a standard office, curtained and equipped with the standard furniture.
23, the Ambassador's room, which differs in a number of details from the standard office, not only in the type and design of furniture, but also in respect of the built-in equipment.
24, detail of cove lighting, and silk-panelled wall, both adapted to the former Ambassador's collection of paintings.



24

23

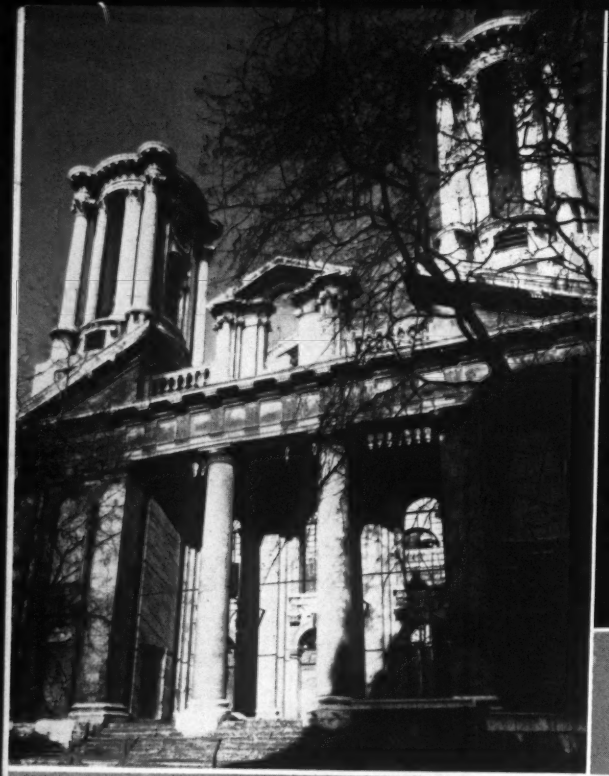
25

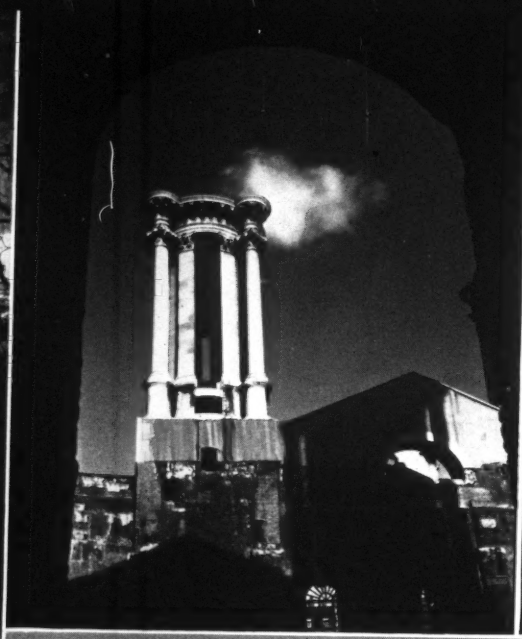
25, treatment of the under-window in the Ambassador's room. As in other rooms of the office floors, this contains the heating and air-conditioning equipment but in this case has a marble cill, instead of the standard hardwood detail.

26

26, panelling of the corridor on a standard office floor, faced in white plastic and concealing cupboards and access doors for the service ducts, etc.

photographs by H. de Burgh Galwey





The future of St. John's Church, Smith Square, Westminster, by Thomas Archer, is the subject of much present argument and of the article that begins opposite. These photographs show its ruined state today: left, the south end; above, the empty interior and decapitated corner towers; below, the whole church from the south-east.

ST. JOHN'S CHURCH SMITH SQUARE WESTMINSTER

An account of the history and vicissitudes of Britain's most distinguished baroque church, now an empty shell, and of a scheme now being put forward for converting its remains, unwanted for religious purposes, into a concert-hall while preserving its architecture externally.

1, *shell of St. John's after the fire of* 1742, *from the painting by Francis Harding.*

'This is one of the most singular, not to say whimsical buildings in or near the Metropolis.' Rev. Joseph Nightingale: *Beauties of England and Wales*, 1815.

The second half of the seventeenth century was a period of intense religious re-examination and re-appraisal. The Puritan extremes ('When this is the misery, 'tis superstition now-a-days for any man to come with more reverence into a church, than a tinker and his bitch into an ale-house'—Archbishop Laud) were followed by a high-church attempt to re-establish pre-Reformation continuity of devotional forms, resulting in the little known Laudian Gothic revival. Missionary spirit followed closely on colonial expansion, and royal gifts of plate for the proper celebration of the sacrament were made under William and Mary and Queen Anne to the Bermudas and to the American and Canadian colonies. Queen Anne unostentatiously devoted part of her revenues to found Queen Anne's Bounty, the Society for the Promotion of Christian Knowledge and the Society for the Propagation of the Gospel in Foreign Parts. This high-church religious zeal was brought to a head in this country by the return to power of the Tory party in 1710, and to celebrate this victory 'what more splendid affirmation of Tory High-Church principle could there be than the erection of fifty churches in the Cities of London and Westminster—not mere tabernacles either, but "churches of stone and other proper materials with towers and steeples to each of them".'[1]

Sir Roger de Coverley, on one of his water journeys from the Temple stairs to Vauxhall, had asked his companion to note how thickly the City was set with churches, while there was scarcely a single steeple on this side of Temple Bar—'there is no religion at this end of the town. The fifty new churches[2] will much mend the prospect.'

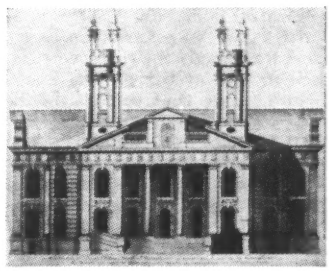
Parliament vested the revenues from a duty on coal for this purpose in the ninth year of Queen Anne. Commissioners were appointed and architects were selected, not 'old boys' with their feet in a previous generation, but those of advanced thought and conception, in particular Nicholas Hawksmore and Thomas Archer.

Clearly the architects were given a free hand and they responded magnificently. But architectural churches are not automatically devotional buildings, and churchmen have tended to look somewhat askance at the results of architectural enthusiasm, fearing that religious piety and devotional sanctimony were perhaps secondary to Roman awe and pagan fun. The Grand Tour had focused the eyes of the cognoscenti on Rome and Vicenza.

In 1705 the city of Westminster had begun to expand across the Thorney Island marsh, and an investing Shakespearean actor, Mr. Barton Booth, had built the west side of Barton Street and the south side of Cowley Street southwards towards the Horse Ferry Road from the firm ground on which the Abbey stood. By 1720, yet further south, streets radiated from the hub of Smith Square, with simple varying but uniform four-storey utility houses, panelled in pine, of plum-coloured brick with vermilion quoins and arches. All were built on a double raft of larch logs sunk some four feet below the level of the marshy ground, which still forms the back garden level of the present streets. On this raft the roads were raised some seven feet on brick arches and survive today as a quite artificial road level.

On October 4, 1711, the Commissioners addressed a letter to the Vestry of St. Margarets, calling on them to find three suitable sites in Westminster for the additional churches required, and 'to proceed in such Useful and Pious a Work with all possible expedition.' The Vestry replied to 'The Most Revd Father in God Thomas Lord Archbishop of Canterbury and the rest of the Honble. Comrs. appointed by her Matie Pursuant to a late Act of Parliamt.' that they had found 'a piece of Ground about Seven Acres near Millbank in the said Parish which is freehold and the Estate of Henry Smith Esqre. who has Declared his willingness to Dispose of an acre and a Quarter of the said Ground for the sum of Five hundred Pounds.' Henry Smith was Treasurer to the Commissioners!

A somewhat larger area was eventually bought from Smith on June 1, 1713, for £700, including land for a house for the minister. This land was reserved for the most ambitious and expensive of the fifty new churches. It was to occupy the centre of a 250-foot square. Thomas Archer was to be the architect. He had been appointed a Commissioner in 1711 and had recently returned from his tour in Italy and the study of the work of the Baroque moderns, Rinaldi, Pietro da Cortona, Bernini and especially Borromini. From his designs and from his surviving work[3] it can be seen



2, *Archer's original design for St. John's.*

that he had adopted the Baroque love of deep three-dimensional recession, actual piercing of the structure, and modelling of surfaces to give strong contrast of light and shade, and the Baroque fondness for the piling up of architectural motifs. In his designs for St. John's there is more than an echo of Borromini's Sta. Agnese in Rome. As Colvin says[4] 'His houses and churches are the most uncompromisingly baroque buildings in England and form a unique episode in English architectural history. For, as an interpreter of Continental baroque Archer had no successor in England.'

Archer's St. John's

He has been badly treated: his buildings, until recently, were little appreciated and those which have not been destroyed have been mutilated. Even his designs for St. John's were altered in execution without his sanction, and the light, vertically emphasizing pinnacles crowning the four towers and clearly detailed in the engraving of his original drawing, were replaced by stunted and unsympathetic pineapples.

St. John's is the finest of Archer's buildings and ranks amongst the very few fully baroque buildings in this country. Structurally it is also of great interest. The Thorney Island marsh made precautions and care necessary. The subsoil was a layer of vegetable earth of a peaty nature, beneath which, to a depth of forty feet, is sand intermixed with gravel over the blue clay formation. This thick bed of sand was reported as being constantly charged with a large quantity of water which, being acted upon by the pressure of the tide, rose and fell somewhat with it. Archer designed a completely symmetrical building, floating on a double raft of larch logs sunk deep into the sandy gravel. On this raft there are two sets of foundations, the first carrying the exterior walls and the second an independent system for the main floor and congregation. The wide expanse of the north and south steps, with the echoing east and west projections, further spread the great load of walls three and four feet thick.

The great mass of building was

[1] Sir John Summerson, *Georgian London*, 1945

[2] These were the subject of an article by H. M. Colvin in AR, March, 1950.

[3] See Marcus Whiffen. *Thomas Archer*. Art and Technics, 1950.

[4] H. M. Colvin. *A Biographical Dictionary of English Architects*, 1660–1840. Murray, 1954.

raised on an eight-foot high podium sheer from the cobbled square, only enclosed by a ring of Portland stone tethering-posts. There were none of the railings or the fluff of dirty bushes that later destroyed its link with the ground, as they still do. The interior of the podium, with its floor three-foot-six below the ground outside, is a magnificent double set of brick arches and vaults like a Piranesi engraving. No scheme of restoration should be permitted to destroy this, and it should be seen and used by the public.

No drawings have come to light of Archer's original interior. Approached by a double flight of fourteen steps, it was clearly thought of, not as a convenient nave and chancel for worship, but as a great interior space with eight huge marble Corinthian columns supporting a cross barrel vault and a further pair at the east and west ends. A recently discovered plan from some uncatalogued Royal papers shows these columns, and the lines of the flat arched vaults are clearly visible today in the ruins. The interior was not of the St. Paul's, Deptford, type with its twelve columns ranged to form north and south aisles, as has been assumed.

The consecration ceremony, which took place on June 20, 1728, was performed by Dr. Bradford, Bishop of Rochester and Dean of Westminster. Seventeen years had elapsed and £46,775 14s. had been paid since the start of the building. For the next hundred years absentee ministers took little interest in their cure, so that the satirist Churchill, who was curate from 1758 to 1763, before making fame and fortune out of orders, could write:

'ordained alas! to keep through need, not choice,
those sheep which never heard the shepherd's voice,'

and Dr. Willis, the rector at the time of the devastating fire which consumed the whole of the interior of the building in September, 1742, could not bother to return to his parish, and increased the perplexities of the Vestry by pressing for his quarter's stipend when there were no funds left to meet his demands. They were eventually met by one of the Vestry paying the Bishop privately. It is reported that Dr. Willis had let the crypt to a firm of wine and spirit merchants.

Until the last war Harding's picture of the interior after the fire hung in the Vestry. Reproduced here, it shows the gutted shell looking exactly as it does today twenty years after the fire of 1941, except for the remains of the twelve columns which, being so badly calcined as to be of no further use, were offered for sale. The highest offer of six pounds was accepted. The roof was gone and the south-west tower damaged beyond repair. The rest of the exterior survived.

After two appeals to the Government the news came on February 20, 1744, that Parliament had voted £4,000 to restore the church, and this sum was spent on replacing the south-west tower exactly to match the other three, and on a fifth-rate interior. This omitted the twelve columns and the barrel vaults. James Horne, the surveyor, drew up the specification. In 1756 galleries were added on the north and south sides of the miserable interior. Major repairs were undertaken in 1815 and, under Inwood, in 1824 'so conspicuously that many parishioners can scarcely recognize their original place of worship.' The seating was increased to 1,800. In 1828 iron railings and gates were added. Further 'restoration' took place in 1841, 1845, 1864 and 1884. An assortment of inappropriate monuments and memorials and ample applications of 'Churchwarden's whitewash' completed the drab picture.

casualty of the war

During the night of May 10, 1941, the church was again gutted. The walls stood, and for the last twenty years the protective measures to the heads of the walls and to the main floor, well carried out by the Diocese, have protected a roofless shell.

It was decided soon after the war that the parish should be declared 'an Ecclesiastical reorganization area.' This was confirmed by the Commissioners and by Parliament. It was decided that St. John's would no longer be required as a church, with Westminster Abbey and St. Margaret's so near and the main population moved southwards towards Pimlico. St. John's was united with St. Stephen's and the St. John's, Cawston Street, Church Centre has subsequently been built in the area of the united benefices, the funds for this building being obtained from the sale of another site in quite a different part of London. The old rectory in Smith Square was demolished and a clumsy office-block, of which the Conservative Central office who inhabit it should be ashamed, has replaced it in the south-west corner of a square now zoned for residential purposes.

After the war various suggestions were made for the use of the shell or site of the church itself, including one that certain monuments should be removed from Westminster Abbey and be housed in St. John's. To improve a great Gothic building by cluttering a great Baroque one seemed illogical and the scheme had little support.

Under the Reorganization Areas Measure, 1944 (7 and 8 Geo. 6), the site and building were vested, not in the Church Commissioners, but in the Diocese of London, and under the same Measure, the Diocese had to prepare 'a scheme.' Their scheme was to reconstruct the shell as a Diocesan Record Office, but after thorough investigation, it was abandoned as being too costly. Clearly any scheme for St. John's, to be workable, must not add any further weight to the now compressed and static marshy sub-soil, unless very extensive and impractically expensive piling some forty feet deep be undertaken; and the completed building must bring in sufficient income to support itself, unless it is to be a very heavy drain on other funds. But the Diocesan Record Scheme has never officially been cancelled and replaced before the Commissioners (and after their approval before Parliament) by any other. This cannot be done until the Diocese accepts another scheme.

By 1958 the Diocese was considering forming the shell into offices for the Church Missionary Society, who were to move from Salisbury Square, behind Fleet Street, presumably selling the freehold very advantageously. This scheme, however, involved breaking up the interior space and was considered undesirable both by the LCC as planning authority and by the Royal Fine Art Commission. Diocesan funds would clearly benefit by obtaining the site value of St. John's at an office-user valuation, but the Minister, on the recommendation of his Historic Buildings advisers, has given definite assurance to The House that demolition will not be permitted. Presumably the Diocese could demand compensation for the two refusals, and, in a letter to *The Times* of July 11, 1959, the secretary of the London Diocesan Fund showed that this was being considered. Presumably, too, the Diocese would like to benefit by the amount of the War Damage payment, but the Commission has laid down that, in view of its supreme architectural and historic interest, the payment on this building may not be 'ported' to another site.

Meanwhile, the Church Assembly had adjourned debate on the motion 'That the Church Assembly, mindful of the Church's responsibility for its historic Church buildings even when no longer required for parish use or worship, urges the appropriate authorities of the Church of England to take such steps without further delay as will ensure the effective preservation of the fabric of the Church of St. John, Smith Square, London, on the ground of its architectural merit and having regard to the fact that it was built in 1714 with funds voted by Parliament.'

The Reorganization Areas Measure, 1944, section 20, permits 'the sale letting or exchange of any land which forms the site, or part of the site, of a church, but which under the scheme will no longer be required as such'—and also 'the closing of a church.' Under section 26, where the building is of historical, architectural or artistic interest, the Measure allows for consultation with the Central Council for the Care of Churches and requires that the advice of the Royal Fine Art Commission be sought.

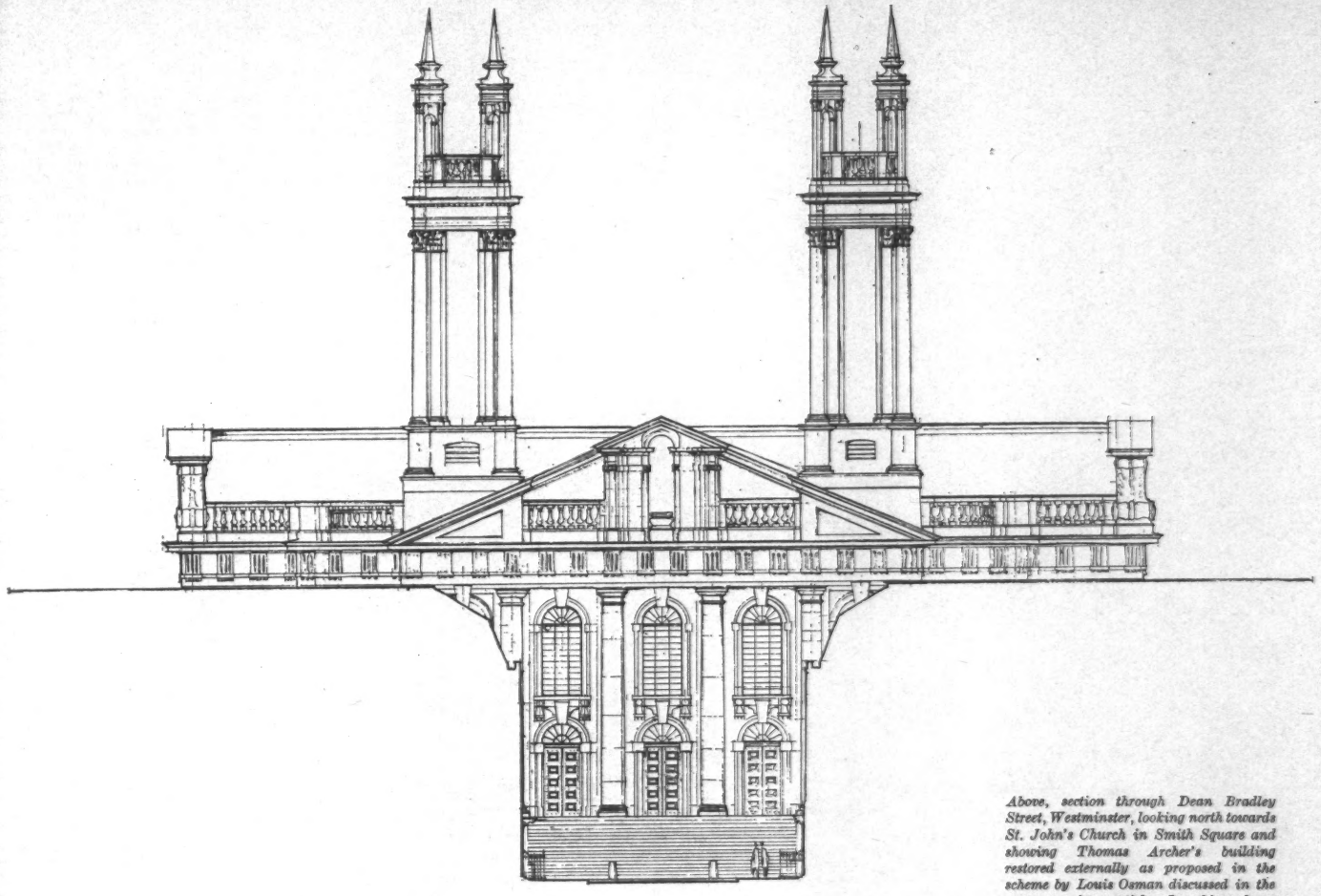
plans for the future

In 1951, before the Festival of Britain, Louis Osman, the architect, had suggested to Mr. Christie, of Glyndbourne, to Sir John Gielgud and to the Earl of Harewood that a magnificent production of some appropriate musical work of the high Renaissance—for example of Monteverdi—might be put on under a canvas or suspended aluminium roof in the interesting and exciting brick shell of St. John's, but approach to the authorities did not give any confidence that the necessary permission might be forthcoming, and certainly not in time for the mounting of an expensive production. However, as Mr. Osman found that there was no practical future planned for St. John's, he suggested to the Diocese that they might consider the forming of a small permanent concert hall within the ruins. Such a project would enable Archer's exterior and existing interior walls to be restored in accordance with the original designs. The crypt could also be brought into such a scheme, and the four towers with their staircases would form escape routes and the access to boxes.

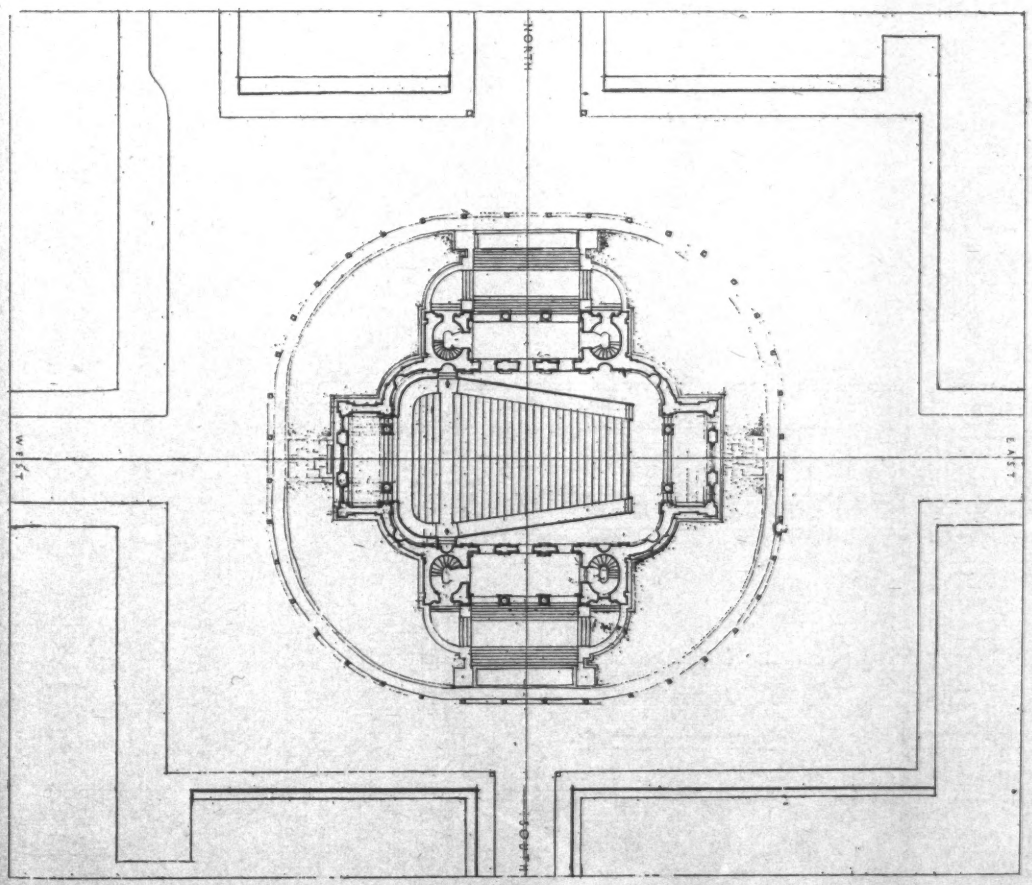
The ceiling and roof structure had in any case to be renewed, so acoustic control could be incorporated. The general shape and modelling of the walls was eminently suitable. Ample access on the north and south sides through three doors each would comply with the most stringent regulations. South, east and west of Smith Square there would be parking at night for one car to every two people using the concert hall—though nothing like that ratio is required—without parking in front of any residence. Mr. Osman's scheme was shown, after study by engineer and quantity surveyor and other experts, to be financially practicable if a fair and reasonable, but not excessive, compensation were paid to the Diocese.

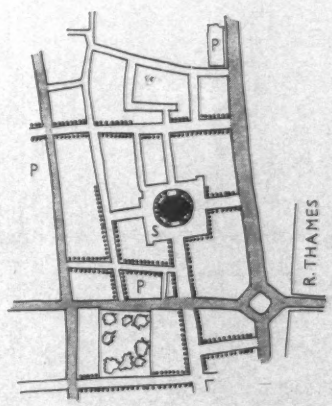
A concert hall holding about 1,250 was an urgent requirement in London; somewhere where soloists, chamber musicians and small orchestras not requiring the three thousand seats of the Festival Hall, could perform in distinguished surroundings. It was thought to be a worthy means of giving new life to a building no longer needed as a church, and would be particularly suitable for all the Renaissance music written for the great rooms of royal palaces, as well as for modern music. Nor could concert performance of the great works of church music have a better setting. The Queen's Hall had been destroyed, and the hope of incorporating a smaller hall on that site had passed. The plans for a music centre in Regents Park, which had been under consideration for ten years, had, by then, also 'gone with the wind,' as Lord Esher wrote in *The Times*. The Henry Wood

[*continued on page 271*



Above, section through Dean Bradley Street, Westminster, looking north towards St. John's Church in Smith Square and showing Thomas Archer's building restored externally as proposed in the scheme by Louis Osman discussed in the accompanying article. In this scheme the interior is converted into a concert-hall, and the plan on the left and the two sections overleaf show how the seating is fitted into the shell of Archer's building without disturbing the architectural features that have survived; also how the existing staircases would serve the various levels of the new interior. Below, map of the surrounding area showing the available car-parking facilities.





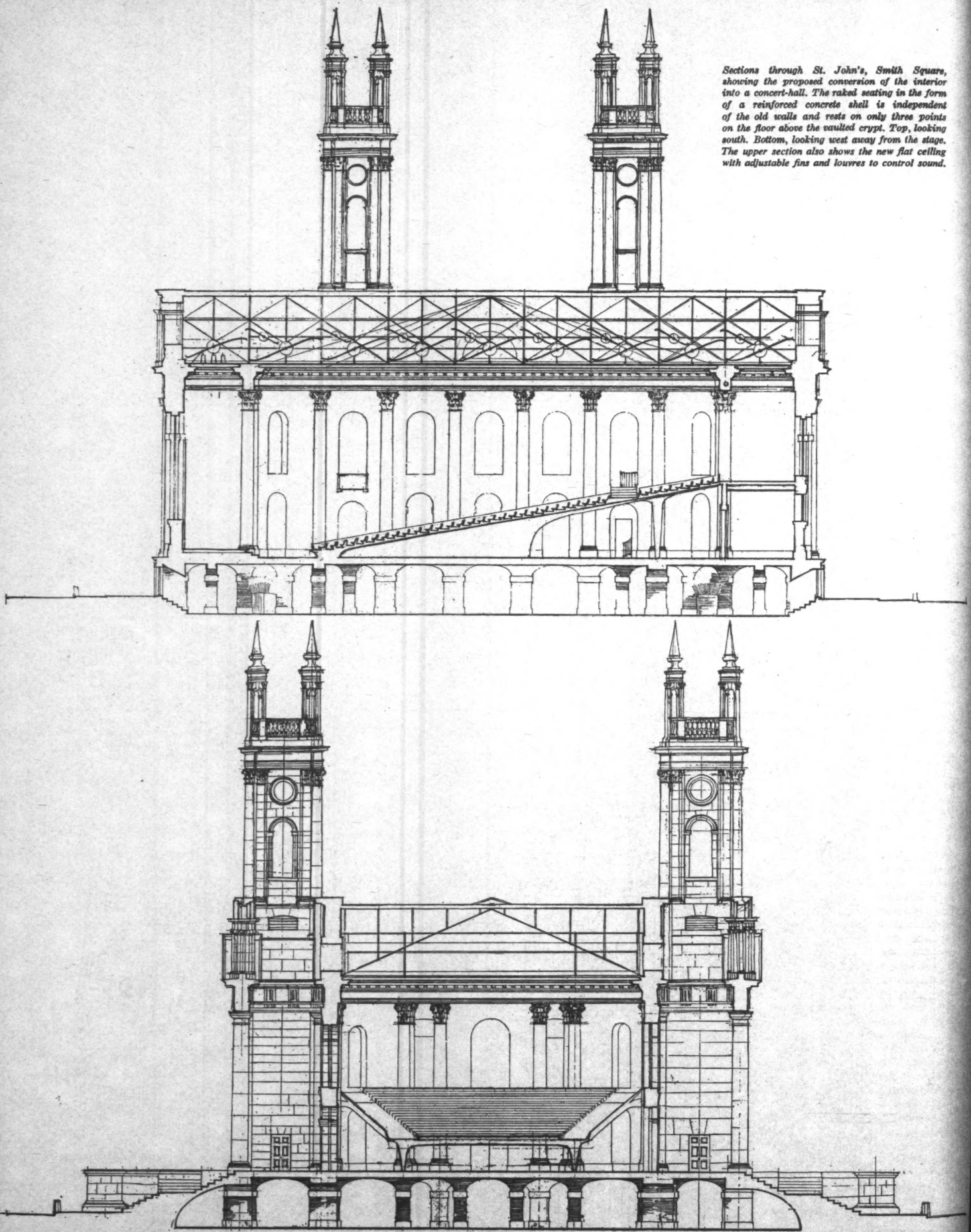
KEY

P official car parks

street parking

traffic arteries

S Smith Square



Sections through St. John's, Smith Square, showing the proposed conversion of the interior into a concert-hall. The raked seating in the form of a reinforced concrete shell is independent of the old walls and rests on only three points on the floor above the vaulted crypt. Top, looking south. Bottom, looking west away from the stage. The upper section also shows the new flat ceiling with adjustable fins and louvres to control sound.

continued from page 268

Memorial Fund had collected from the public a sum of £75,000 towards the provision of a new concert hall and the trustees still held this money unused. Here was a possible opportunity for a new Queen's Hall.

The LCC went thoroughly into these plans. They had their own schemes for a smaller hall as a part of the Festival Hall site; but they considered that, in view of the opportunity that Mr. Osman's scheme would give for a proper restoration and economic use of Archer's building, both schemes could well go ahead. They therefore granted planning permission, after consultation with the local residents who might be affected by the project. Most replied that the public interest of what was proposed should outweigh personal feeling, though parking cars might be a problem. The late Sir Archibald Jamieson took action to form a non-profit making trust to further the scheme.

Only the church authorities showed a complete lack of enthusiasm, which was commented on and regretted in the Royal Fine Art Commission's 1957–58 report. This report commended the concert hall scheme. The only reason ever given for this lack of enthusiasm on the part of the church took the form of a view expressed by the Secretary of the London Diocesan Fund that 'There should surely be some permanent public or quasi-public use . . . without the element of speculation involved in the construction of a concert hall,' but this misgiving had already been covered by the suggestion that the building should be handed over on suitable terms to the care of the National Trust, with the Diocese suitably compensated, so that the Diocese would then not be affected by any possible failure. The National Trust could be relied on to ensure that the scheme was not impractical—they suggested, for example, consultation with Professor Lord Robbins, who had been chairman of the Government committee set up to consider the rebuilding of the Queen's Hall—and in fact on April 11, 1958, the National Trust agreed 'to accept charge of the building, if offered, after repair and conversion of the interior as a concert hall, provided the Trust approves the finances.'

When the St. John's concert-hall scheme was first put forward there had been no move to complete the original Royal Festival Hall scheme by building the proposed smaller concert hall. Recently, however, the LCC has taken the decision to build a hall seating 1,250 and one seating 250 alongside the Festival Hall, and work is to start later this year. But this building will be of a different type, and it is established that there will be ample public demand for at least one further auditorium for some thousand people. The need is accentuated by the Wigmore Hall's lease drawing to an end, bringing uncertainty as to its future.

The issue, however, has been confused by further schemes or suggestions recently put forward, entering in a sense into competition with Mr. Osman's scheme. One is a revival of the old monuments-from-the-Abbey scheme, which seems not only aesthetically ill-conceived but quite uneconomic; another is a scheme promoted by Mrs. Baxter, of the Church Drama Society, that St. John's might become a centre for Religious Drama and Church Art, with partial use as a concert-hall thrown in, to help make it pay. A new body called The Council for the Encouragement of Religious Art, with Lord Rosse as its chairman, has been formed for this purpose. Apart from this scheme being confused by diversities of aim, it may be questioned whether the public would give sufficient regular support to make it economically sound. Moreover it appears in part to cover the same ground that the Central Council for the Care of Churches has been successfully covering for a great many years and to duplicate that council's scheme for an arts centre at All Hallows, London Wall, which is now under way.

If the Diocese demands a religious use at all costs, then there is something in another recent suggestion: that St. John's might become a centre for inter-denominational unity. It is pointed out that there is no pulpit in London to which a visiting preacher can be invited, which is not associated with one denomination or another, and there seems to be a case for establishing, not a royal peculiar, but an ecclesiastical peculiar, where the ordinary rules can be relaxed. Archer's church had a great reputation for preaching and its architectural features would be preserved. However, it again seems unlikely that this scheme would pay its way.

A further suggestion, which has been put forward repeatedly since the bombing, is that St. John's should simply be allowed to remain the finest ruin in London. Such an idea, which has its attractions, might work if there were a body altruistic enough to bear the expense of maintaining so costly a folly; for costly it would undoubtedly be. Archer's shell will not permanently survive open to the winds without constant and increasing maintenance as frost and rain eat further into the backs of walls and foundations—if only English weather were as influenced as was the architecture of the church by Italian skies.

the concert-hall project

The foregoing narrative seems to suggest that of all the schemes so far put forward, Mr. Osman's, for a concert-hall within the restored shell of the building, offers the best prospect of a successful and appropriate future use for St. John's, and for this reason the accompanying drawings of his scheme are reproduced so that readers can judge its implications and possibilities for themselves. They indicate how the adaptation would be done, but need a certain amount of explanation.

St. John's is now a sordid and dirty sight. Yet the problem of restoring all that survives of Archer is a relatively simple one. Proper repair and cleaning, removing dirt and sulphurous grease but maintaining the patina of time, is all that is required for its qualities to be seen again. Certainly Archer's original terminations to the four towers, each with four pinnacles giving an additional twenty-five feet, should be put back. There were, in fact, four to each tower, not as Marcus Whiffen states, two—he may have been misled by the elevational drawing. Corinthian pilasters, coupled by an arch, stand astride the balustrading on the four radials of the circular tower, and above the entablatures rise triangular finials. At all costs the original line of the roof and its colour should be maintained and the glass for replacement carefully selected for colour and texture.

With the removal of the bushes, and the repaving of the perimeter right out to the encircling ring of Portland stone posts, Archer's building would again be seen as he designed it. The appearance is not spoiled by the well grown and lacy plane trees with their lively patchwork trunks and branches. These give scale to this great building.

The interior is another problem. No drawings or detailed records of Archer's interior exist, and any attempt to imagine it cannot but produce a fake. In Mr. Osman's scheme all the original doors are retained. The interior wall surfaces retain their pilasters, window surrounds and shape of windows. The original floor space and original levels are maintained and are resurfaced in stone and marble, which would give acoustical brilliance. Beyond the proper restoration of existing features Mr. Osman's scheme is modern in conception and visual impact. He considers, however, that, for harmony, the modern design should be based on classical proportions, and that colour and decorative finishes must be in the key of eighteenth-century Baroque, though imitating none of its forms.

Since the original columns are not replaced, the ceiling shape cannot rightly relate to the cross-barrel vaults of the original. A flat ceiling of acoustical material is instead suspended, clear of the walls, from the restored roof structure. Sound can pass through this and absorption and reflection can be controlled above by adjustable fins and louvres. Indirect lighting, which can be varied in intensity, is included right round the perimeter and would pick up the gilding of the restored pilasters. The ceiling is left plain.

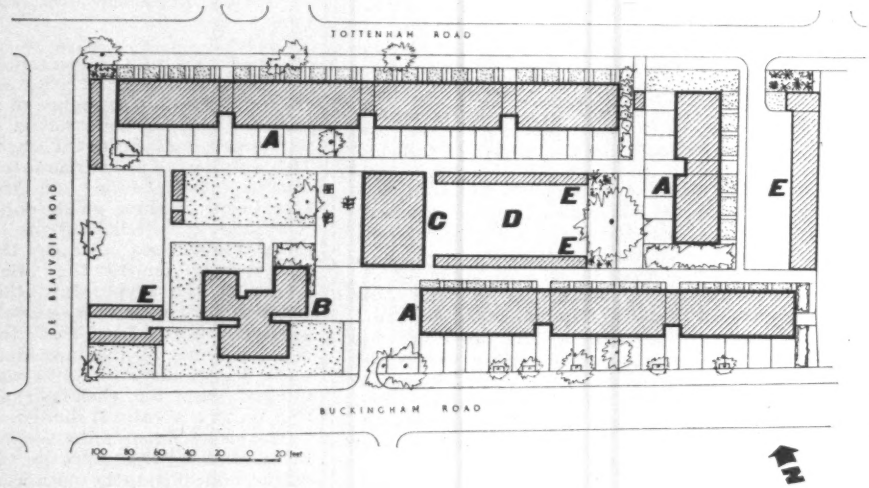
The east end forms the stage. It incorporates two chamber organs suitable in scale and tone to the types of music for which the hall is designed—possibly a Father Schmidt or Schnitzler on one side and a modern chamber organ designed for modern music on the other. Again, any fittings or wings for opera production are conceived as screens independent of the walls.

In front of the stage is a reflecting area of hard material, and from this, ten feet clear of the walls, rises a steep range of a thousand stepped seats set on a slight curve focusing to the stage. This is formed of a thin reinforced concrete shell bearing on the floor below at three points only. A system of interlinking mushroom foundations spreads the load evenly on to the brick arches of the crypt. Into this concrete shell with white marble aggregate would be cast the concave forms of the individual seats. Service ducts would be cast integral with the shell-floor so that no service entrails showed.

The rising slope of the seating brings its level right opposite the entrance openings to the south-west and north-west tower stairs, which thus form additional means of approach and escape. The stairs to the south-east and north-east towers, with independent doors to the exterior and to the body of the hall, give access to a royal, and to one other, box. The stairs continue to the crypt, where cloakrooms and artists' rooms are planned within the existing magnificent brick structure. In the remainder there are staff offices and a number of sound-proof practice rooms. Such rooms are almost unobtainable in London and, in close proximity to the South Bank site, will be of immense advantage to musicians. The existing floor level below the seating ramp remains completely open, forming a foyer around which the wall pilasters grow like trees. In this west recess is a main reception room 32 ft. long.

Executed properly, such a scheme could give London an architectural work and a musical and cultural centre of international importance—a combination of Glyndbourne and the Palladian Theatre at Vicenza. Done superbly it could combine a modern freshness and functional appropriateness with as complete a restoration as is now possible of a great building, which it would be a tragedy to lose. At no single point would the modern, or the use, conflict with the historical, but the building would be used, be seen and be given new blood.

A decision needs taking soon. Meanwhile the building continues to deteriorate and its eventual restoration to become more costly.



site plan
key
A, 4-storey maisonettes.
B, 11-storey flats.
C, community hall.
D, children's playground.
E, garages and stores.

HOUSING, HACKNEY, LONDON

ARCHITECT: FREDERICK GIBBERD (in association with G. L. Downing).

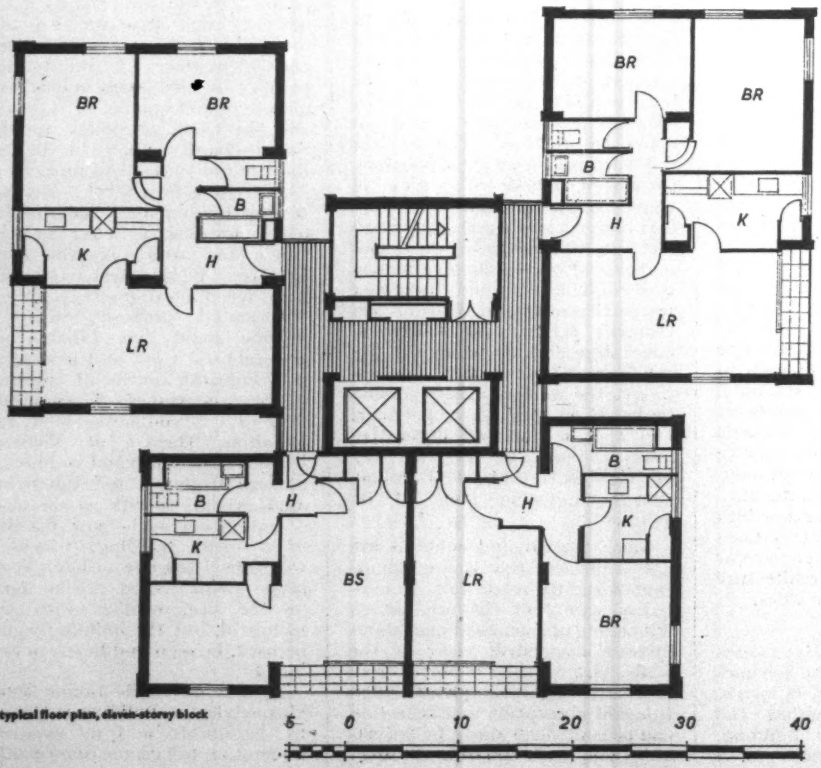
The Kingsgate Estate, Tottenham Road, is the latest of a series of schemes of mixed housing development which have been carried out by the Borough of Hackney since 1947, the first being the Somerford Estate.* There are two principal building types: four-storey maisonettes with two- or three-bedroom dwellings for larger families, and an eleven-storey block of bed-sitting, one-bed and two-bed dwellings for smaller families.

The site is developed (see site-plan) as a central pedestrian square with the maisonettes on three sides and the tall block on the corner. The central space consists of a children's play area and terraces, with which is associated a tenants' common-room and a laundry. The play area is formed by the walls of the pram and cycle stores and the common-room. The ground-floor maisonettes have private gardens. To facilitate maintenance and supervision, the areas of communal open space are clearly defined rectangles of paving, lawns or planting.

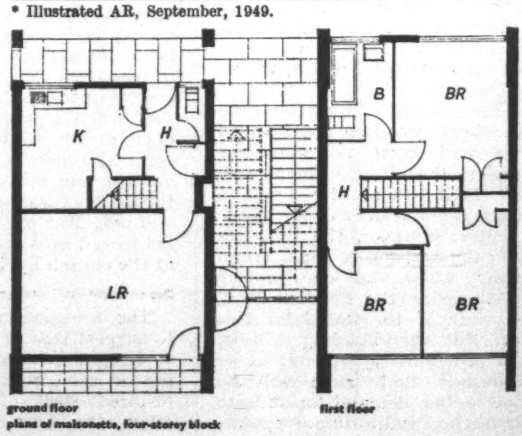
The eleven-storey block of forty-four dwellings is designed as four flats grouped round an access unit consisting of two lifts and one staircase. The building is constructed of in-situ reinforced concrete columns with flat slab construction. Infill panels are brick and 2 in. hollow pots. The staircase is reinforced concrete. Windows are timber and the roof asphalte.

The three blocks of maisonettes contain 78 dwellings and are gallery-access type with two or three dwellings on each side of the staircase. The construction is 9 in. brick cross-walls with reinforced concrete slab between maisonettes and timber intermediate floors. The roof is timber with felt on woodwool slabs. The infilling or panel walls are 6 in. hollow pot, rendered, or timber screens. Windows are timber.

* Illustrated AR, September, 1949.



typical floor plan, eleven-storey block



ground floor
plans of maisonette, four-storey block
first floor

1

1, close-up of private-balcony elevation of four-storey maisonettes. 2, the eleven-storey block of flats in the south-west corner of the site. 3, the pedestrian square, with the tenants' common room and laundry in the centre and the eleven-storey block on the left.

2

3

Flats, Hackney

4, looking along the south side of the estate towards the eleven-storey block.
5, from the east, with the access balcony elevation of the four-storey maisonettes on the right and the eleven-storey block in the background.

4

5

6

7

6, the tenants' common room and laundry from the west; 7, close-up of main entrance.

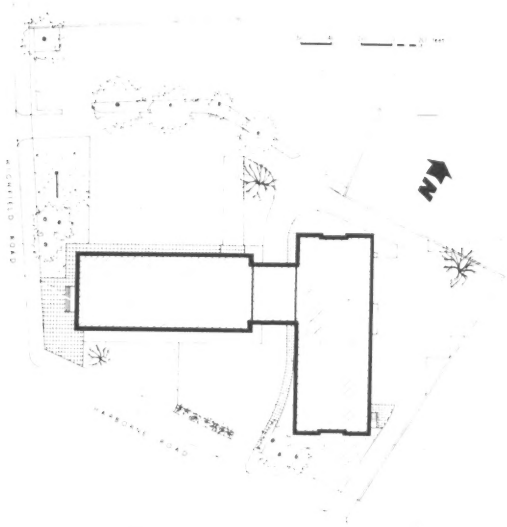
CHAMBER OF COMMERCE BUILDING, BIRMINGHAM

ARCHITECT, JOHN H. MADIN

On the Calthorpe Estate at Five Ways, Edgbaston, a site well removed from the congested city centre but near public transport and large enough for adequate car-parking to be provided. It is a 12-storey building, with two thirds of the accommodation designed for letting as offices. The remainder houses the Chamber of Commerce and contains administrative offices, an information floor, commercial library, council chamber, president's suite, meeting-rooms, club-rooms, etc.

All these occupy a four-storey block which also has a lunch-bar on the roof and a bank taking up part of the ground floor, which is recessed behind its structural columns. This block is separated from the main office-block, at right-angles to it by a four-storey link with open ground floor which forms a covered drive-in. Both blocks are entered at this point.

The building is of reinforced concrete frame construction with plate floors giving clear soffits. In the lower building the exposed ground-floor columns are faced with green



site plan

8, *west elevation of the Chamber of Commerce block.*

Chamber of Commerce Building, Birmingham

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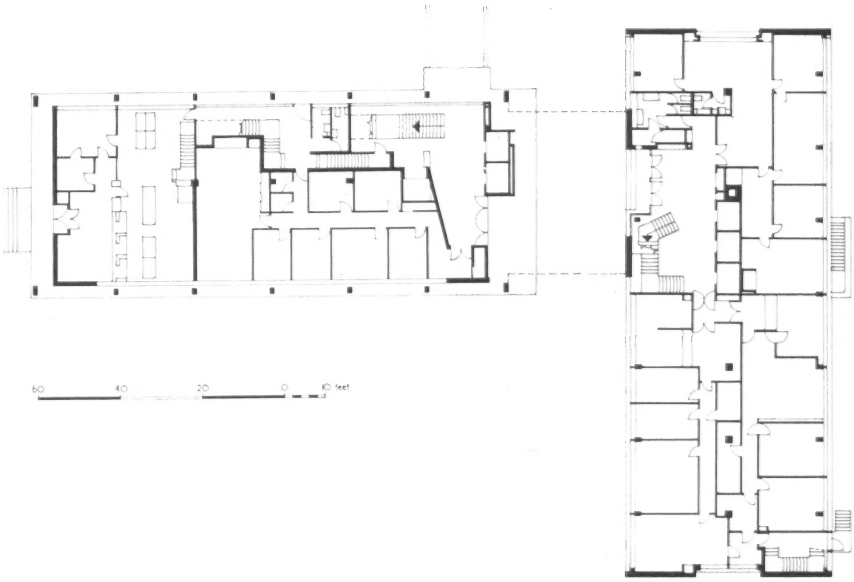

ground floor plan

Italian marble, the glazed wall behind them having panels of Portuguese blue crystal or grey marble. The concrete mullions on the upper floors are faced with Travertine with green marble inserts. Window panels are white Swedish ceramic mosaic. The elevation is framed in Travertine and the end wall faced with Portland stone.

The twelve-storey block has three rows of columns. The side walls, facing south-west and north-east, are fully glazed and divided vertically by thin pressed aluminium mullions. These elevations, also, are framed in Travertine and the end walls have a central vertical strip of glazing flanked by panels of Portland stone. Beneath the office floors are service ducts connected to skirting trunking round the perimeter of the building, which allows telephone and electrical services to be taken out of sight at any point.

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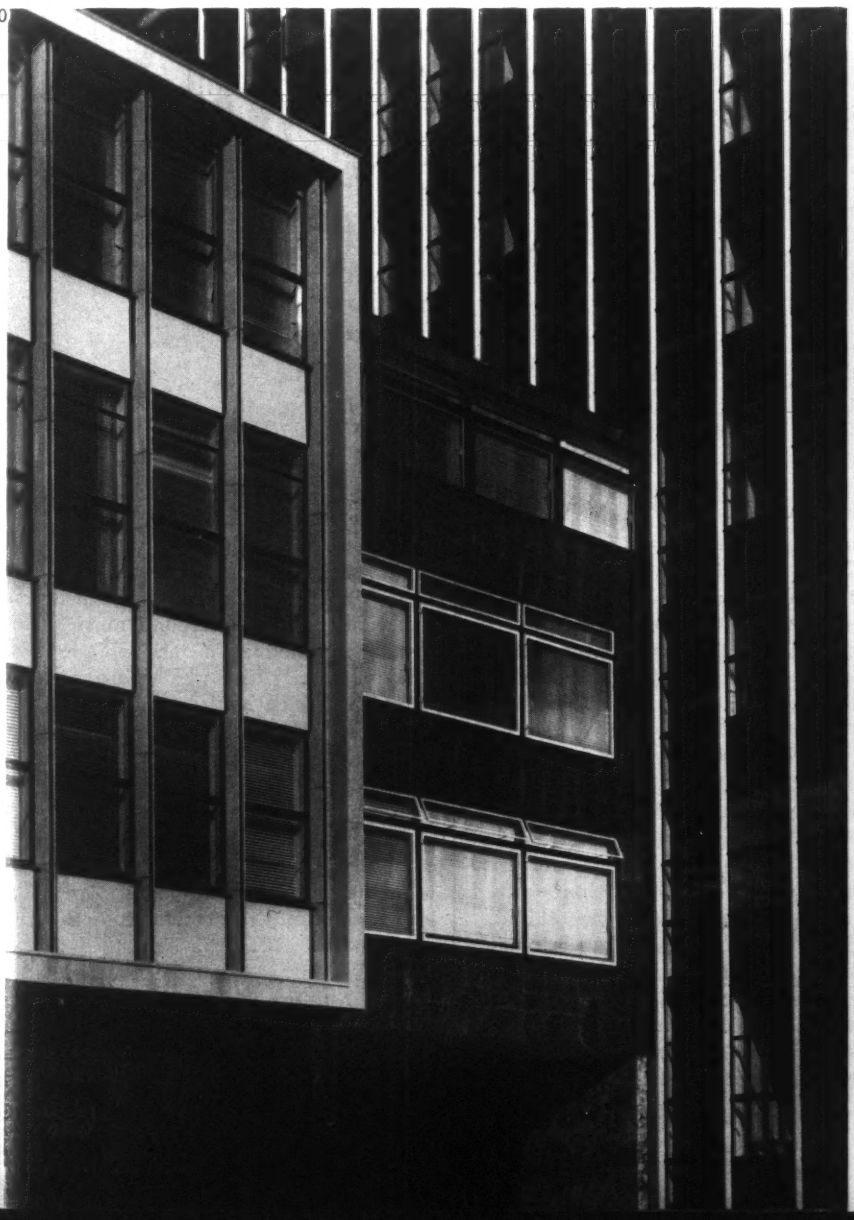

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9, general view from Harborne Road; the Chamber of Commerce block is on the left and the lettable offices are on the right. 10, *close-up of the three-storey bridge connecting the two blocks.* 11, *first-floor reception area of the Chamber of Commerce.* 12, *the council chamber.*

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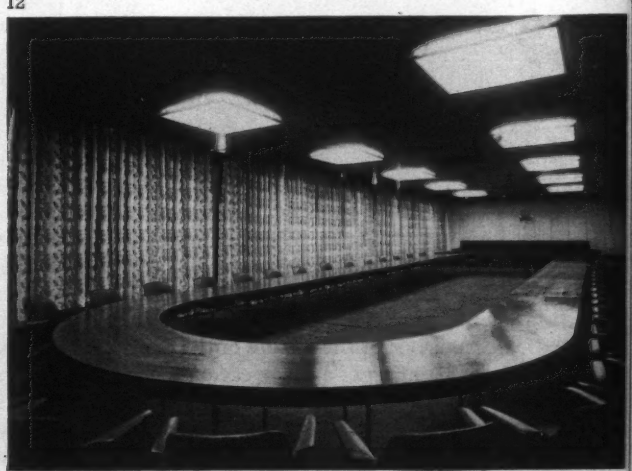


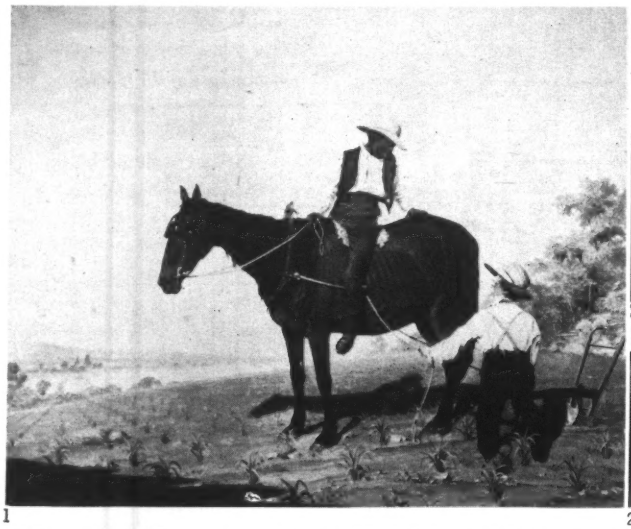
EXHIBITIONS

PAINTING AND SCULPTURE

The forty-eight American pictures recently exhibited at the new Embassy building in Grosvenor Square were selected from the 232 *works painted between* 1815 *and* 1865 *which form the Karolik collection in Boston.* It was the period in which the Hudson River school glorified the grandeur of American landscape in the spirit of the European romantics, and George Caleb Bingham gave his genre pictures the air of historical set-pieces. But the Karoliks, who began to make their collection in the nineteen-thirties, seem to have had no prejudices: they acquired the work of the famous, the forgotten and the unknown, the trained and the untrained, the ennoblers, the dramatizers, the naturalists and the naïves, and in the outcome transformed the conventional view of the period and re-discovered some of the forerunners of the poetic realism of Winslow Homer, Thomas Eakins and Edward Hopper.

The picture called 'In the Cornfield,' 1, painted by James Goodwyn Clonney who was born somewhere in this country, is a notable example of what I would call true American *genre* painting. It exemplifies the virtues which the catalogue note appears to claim for all the art of the period—'exact observation, careful composition and skilful execution'—and is blessedly free from the obsession with frontiersmanship and what is called 'the American idea.' It's a kind of literalism, but it's not without a certain poetry. The painter didn't see the subject poetically, but the picture conveys a sense of time regained. Probably the carefully observed cast shadow of horse and rider has something to do with this sense of a moment salvaged from the past, but since photographs can do this too perhaps I should praise only the crispness of the execution, and this isn't a specifically American virtue. Nevertheless one finds again and again that it is one of the factors which contribute to the exhilarating effect of good American painting.

The same crispness, used with a more spontaneous feeling for pictorial composition, is one of the virtues of the delightful naïve painting of a black cat on a chair, 2. It was painted by Andrew L. Von Wittkamp, and there are letters after his signature that indicate that he was a



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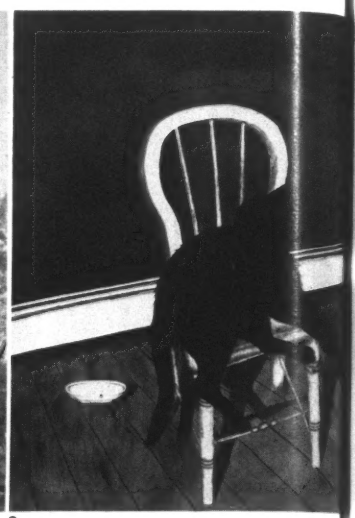

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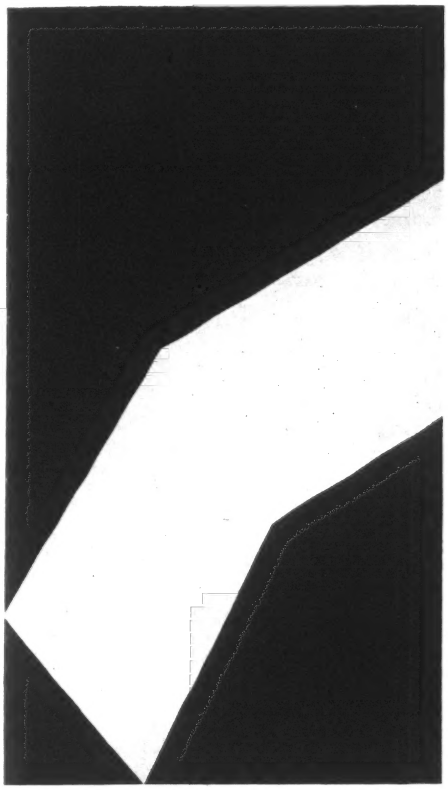
doctor, but nothing else is known about him. It's clear that he didn't know how or where to vary the depth of the black in order to give his cat the illusion of three dimensions, but his acute sense of its 'edges' gives this flat black animal an emblematic life of its own. Dr. Wittkamp may well have spent a good deal of his spare time cutting silhouettes.

William Tylee Ranney's genre painting called 'Duck Hunters on the Hoboken Marshes,' 3, discloses a fine sensitivity to light and space, but the figures are so demonstratively tense that one might suppose that their own lives were at stake. One gathers than Ranney had an automatic vision of the heroic pioneering spirit of the American people that came into play without regard to situation, but it's a little unfortunate that we can see the harmless creatures that his dauntless men and equally dauntless dog are hunting. If he could have relaxed his illustrative grip on them, his figures might have achieved something of the apparitional magic of the figures in Bingham's masterpiece, 'Fur Traders Descending the Missouri' (one picture in which his figures are not rising to an epic moment). Bingham was represented at the Embassy by a more characteristic work—a smooth take-over of European tenebrism—but there were other pictures in the exhibition, less artfully composed, and innocent of conventional tonal harmonies, which left me with the impression that there is something that can be called the American light, and that it inspired painters who were not bedevilled by the European tradition to respond to objects in a new way. It's as if the light gave objects a sharp-edged assertiveness and an almost supernatural isolation



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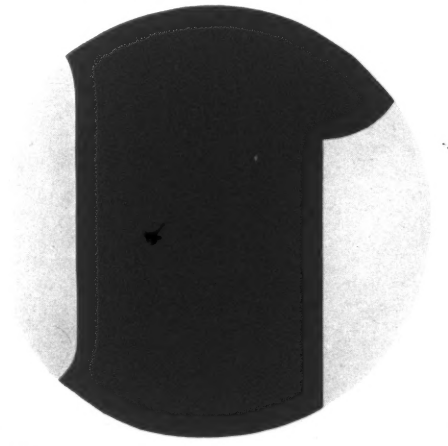
Some sense of the self-containedness of an object and its resistance to serving as symbol is to be found in two of the pictures I have reproduced and in Ranney's picture, so unsatisfactory in other ways, there is a direct response to the light itself. But it was in three hauntingly incisive landscapes by Martin Johnson Heade that it came into its own. Heade's work is untrammelled by 'the American idea,' which, in the period covered by the Karolik pictures, was little more than an overseas branch of European romanticism, but it was probably the first work of exceptional quality that was uncompromisingly American.

Heade, only recently re-discovered, was a painter of genius, but there were enough well-made pictures in the show, of the kind in which objects bathed in sunlight took on the sharp cool magic of objects under a full moon, to indicate that something specifically American was happening.



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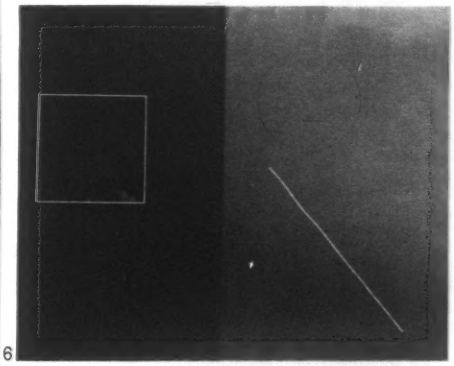
Perhaps this American 'something' can be described as poetic literalism. Faith in the reality of the object has long since been shattered, and if, here and there, a nameable object still puts in an appearance it is only as a symbol of a human situation; but although American painters have now moved into more subjective territory, they have retained some of the characteristics of the earlier painters. One could find overt traces of literalism even in the recent exhibition at Tooths' gallery of American 'hard edge' abstractionists. The name itself provides an obvious link with paintings in the Karolik show. An obsessive concern with the edges of forms and the use of large areas of undiluted black paint brought to mind Dr. Wittkamp's flat black cat.

Some of these painters, particularly Ellsworth Kelly in his 'Fork Left,' 4, and Leon Smith in his 'Edge of Black,' 5, use the ultimate contrast between black and white with curious authority, and one is exhilarated by the effect of cold crisp light before one has time to find them too stark. One would like to think that they induce eye-strain, but I'm certain that they don't. Kelly and Smith both achieve a rich matt ingratiating surface, so that there is no background but a cool, constant flickerless play between the black and the white. The white area of the Kelly reads alternatively as a sign *on* the black and a hole *in* the black. The white areas of the Smith are closing like shutters over the black, but at the same time convince the eye that they exist as a single disc of white *behind* the black. These painters are literalists in that they are concerned purely with optical magic. At least I like to think so. As such, I can appreciate the finesse and impersonality of their operations; but to read them symbolically—the Kelly could refer to traffic signs, the Smith to feminine curves—one would have to ignore the actuality and eventfulness of these canvases, and pretend that the optical magic was not present.

These painters are much less successful when they introduce a colour; wherever a green or a red is substituted for the black the picture takes on the look of a bright, brash unfinished poster. The only painter represented in the exhibition who uses colour sensitively is Ad Reinhardt. But he also has a special feeling for black: one of his exhibits was an unbroken black surface as sumptuous as suede, and even more of a tour de force than Yves Klein's night-blue surfaces. He turns painting into a kind of skin game.

The geometrical abstracts of the disarmingly named Lin Show Yu at Gimpels seemed rather staid after the Americans. There's a somewhat outmoded look about his tasteful placing of forms, and althought he achieves surfaces as clean and meticulously smooth and matt as the Americans, the edges have no bite, 6. Some of his juxtaposed squares of closely related colours disclose the influence of Reinhardt, but they have a zestless, retiring look, as if they were bowing themselves ceremoniously out of existence. Lin is very talented and civilized, but I feel that he is the kind of artist who would not be banished from Plato's ideal republic.



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Some odd things were said on the occasion of Ossip Zadkine's retrospective exhibition of sculpture at the Tate. One remark that stuck in my mind, and in my craw—I think it was said in a radio programme—was to the effect that Zadkine's sculpture was good enough for public places but not for private ones, and that sculptors who produced work that was not quite up to the best standards should be given more public commissions. What it came down to, in other words, is that Zadkine's vulgarly emotive travesty of cubism as represented in those writhing groups of made-up personages, from which an extravagantly supplicatory arm pokes

7

out at the top with monotonous regularity, 7, is scarcely suitable for the élite when presented in small and medium sizes under such titles as 'The Birth of Forms' or 'Germination,' but when presented as large memorial groups, such as the one at Rotterdam, is suitably symbolic of the sufferings and aspirations of the people.

The Berthe Morisot exhibition at

8

Wildenstein's was charming but disappointing. Her paintings look better when they are separated. Her sense of colour was not very strong, nor her feeling for light, and there was a greenish veil over many of the pictures. She used her brush like a broad pencil, to capture, sometimes with verve, momentary aspects of the people who moved in her circle. The studies of children and young girls are nearly always effective, 8, but I didn't altogether believe in the perpetual sweetness and tenderness, and I have a feeling that the greenish veil was an involuntary tribute to ennui and the intermittences of the heart.

Robert Melville

CREDIT *

McCABE'S, PORTADOWN

Doubts have been expressed that the kind of true pub atmosphere that the REVIEW *has always advocated can be attained without the use of period details and fancy dress. Doubters may now look upon McCabe's in Portadown,* 1, *and revise their opinions.* Fitted into an existing building (on which the painted quoins of the Irish tradition may be discerned) the façade offers the kind of flat-arched vaults that are threatened in many avant-garde projects in Britain, none of which has been built yet, and combines them with a Miesian corner detail on the show window.

McCabe's is a modern pub, in which the architect, Ian Campbell of Belfast, has created a true pub atmosphere out of an entirely contemporary idiom, using traditional elements such as cast-iron tables, 2, firmly in quotation marks, the main instruments of atmospheric effect being the colours, the arched openings and the plain design of the high backed settles.

Even more notable than the successful carrying-off of this functional traditional exercise is Campbell's excursion into the more florid effects required in a public bar, 3. Here, it will be observed, the necessary feeling of great richness is achieved by the use of small-scale patterning (floor and bar-front) in permanent materials, and a flourish of structure, partitioning the back wall in deep, mirror-backed boxes, which are shelved below the springing of the rather Charles Rennie Mackintosh looking frames that come forward over the bar-counter to carry the snob-screens. In terms of expense, there is probably little to choose between this and some of the drearier houses still being fitted out in England. In terms of effect, Northern Ireland's advantage is overwhelming.

Hugh Wykeham

*Under this new heading are reported designs that deserve credit for doing well something usually done badly.

HISTORY

MARBLE ARCH IMPROVEMENTS

The replanning at Marble Arch, London, now being carried out by the London County Council gives new interest to the earlier history of Marble Arch improvement, and especially to the scheme first proposed by my father, the late F. W. Speaight, in 1905 and completed in 1908.

The Marble Arch was designed by John Nash, based on the triumphal arches of Septimius Severus and of Constantine at Rome, and was erected at the entrance to Buckingham Palace in 1827. It was originally intended to have been surmounted by a colossal bronze group, emblematic of Victory; later this idea was discarded in favour of an equestrian statue of George IV, executed by Chantry; in the end, however, the statue was erected in Trafalgar Square, and the arch remained unadorned. In 1851 the arch was dismantled and removed to its present site, to serve as a gateway to Hyde Park.

The increase in traffic, even before the motor-car age, produced considerable congestion at the narrow junction of the Oxford Street-Bayswater Road axis with that of Park Lane-Edgware Road, and it was widely felt in the early years of this

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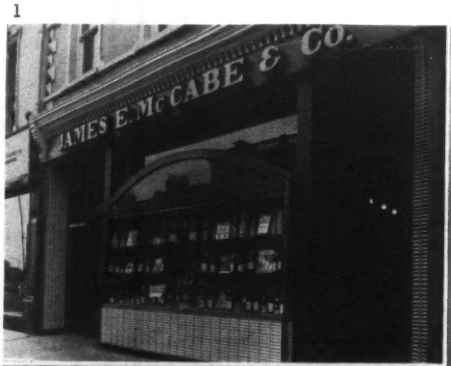

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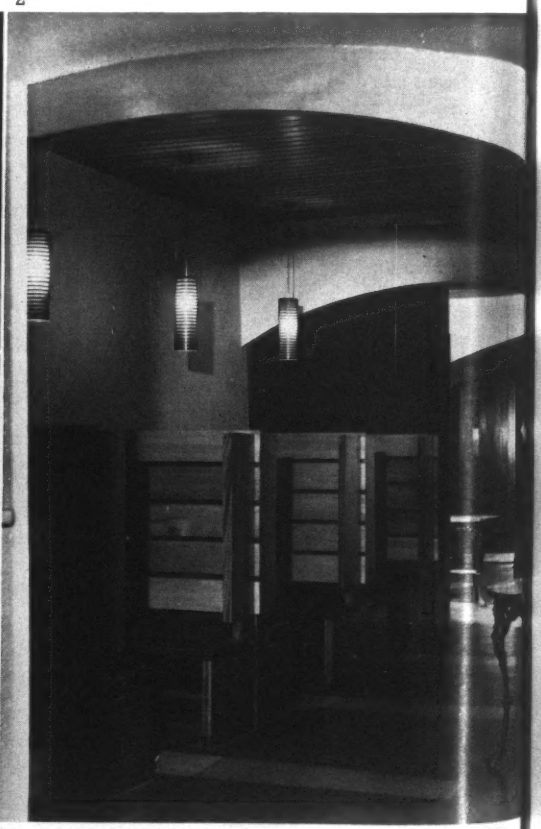

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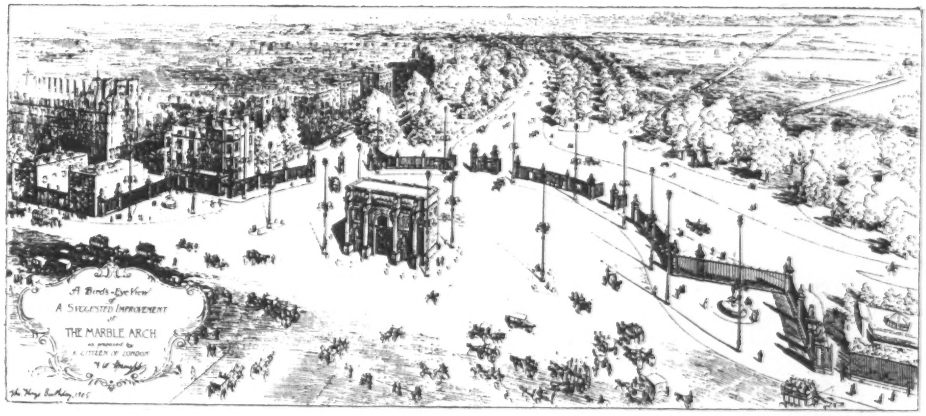
century that the arch, flanked by iron railings and shrubbery and facing a narrow and congested street, was thus robbed of its dignity. Sundry schemes for setting the arch back and widening the road had been mooted, but the difficulty and expense of the work presented an insuperable obstacle. This was the background to an occasion when Mr. F. W. Speaight, a private individual with no technical training but with an intense interest in architecture and town planning, set out for a holiday on the continent. Arrived in Paris, he directed his cab to drive round the city, and on viewing the Arc de Triomphe standing in splendid isolation at the end of the Champs Elysées he was suddenly struck with the inspiration that a similar treatment could be applied to the Marble Arch in London. Family tradition has it that he immediately cut short his holiday and returned to England, fired with the vision of creating a noble *place* for the adornment of the capital city of the British Empire.

Back in London he had the ground surveyed, and on the King's Birthday, June 30, 1905, he issued an expensively produced pamphlet, entitled *The Marble Arch Improvement: A Suggestion* by a Citizen of London. In its simplest terms this suggested that the park should be set back at this point, leaving the Arch in isolation as the central point in a Crescent of Peace, dedicated to His Majesty King Edward VII, which would form the new state entrance to Hyde Park, 1.

Vigorous lobbying by Mr. Speaight produced a considerable body of support for his scheme, though THE ARCHITECTURAL REVIEW remained unimpressed. The First Commissioner of Works showed his interest, but the details of the Crescent of Peace were criticized and three alternative plans were prepared to meet his objections. The cost of the amended scheme was estimated at £19,000. The Liberal government agreed to undertake the work if the London County Council and the interested local authorities bore the cost.

There now ensued a complicated series of negotiations in which the LCC passed the scheme for consideration to the councils of Westminster, Paddington and St. Marylebone. At first the local councils refused to contribute, on the grounds that this was a general, not a local, improvement, the cost of which the whole of London should bear. A new election of the LCC produced a new offer under which the three local councils were invited to each bear one sixth of the cost, the LCC bearing the remaining half. At this, Westminster accepted, but St. Marylebone and Paddington again refused. Mr. Speaight, however, brought talents not unequal to those of P. T. Barnum or Mike Todd to the support



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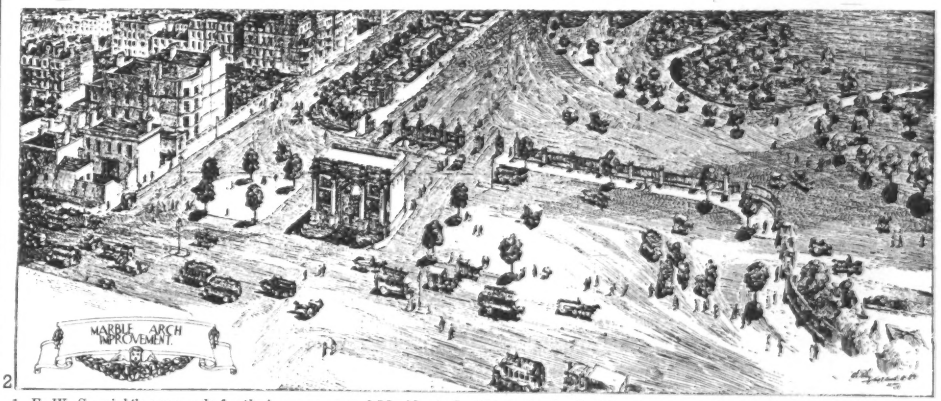
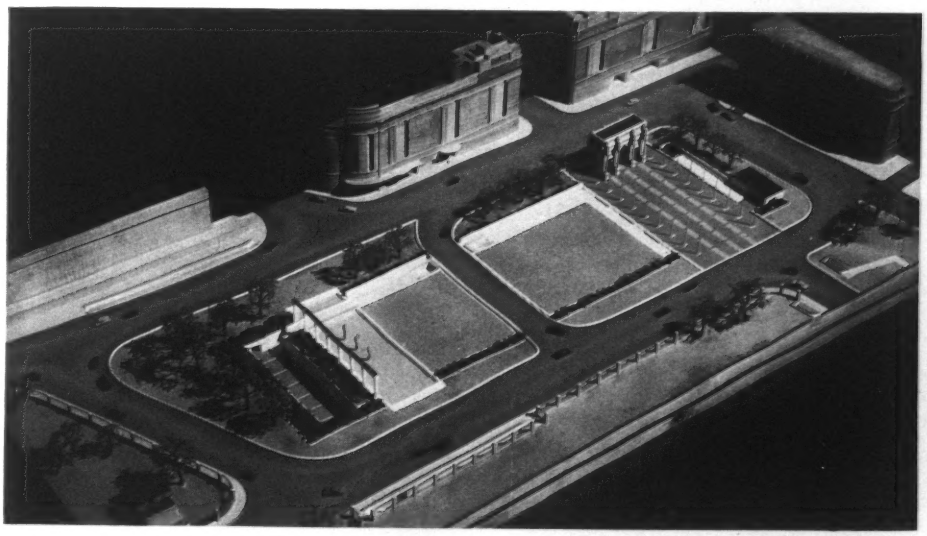


2

1, *F. W. Speaight's proposals for the improvement of Marble Arch* (1905). 2, *the LCC's scheme, completed in* 1908. 3, *model showing the LCC's latest improvements which are now being carried out (view from over the park).*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of the scheme; appeals were directed at the councillors from the public press, by letter, and by personal interview. Eventually, at the third time of consideration, first Paddington and then St. Marylebone came into line. The LCC accepted the scheme in principle, subject to their own modifications, on January 28, 1908, and work started on the site the next morning. By May it was completed, and the first vehicles made the circuit of the now islanded arch.

When the completed scheme with the LCC's modifications was seen, 2, there were not lacking complaints that the result was disappointing. Mr. Speaight wrote, 'In the four alternative plans for the Marble Arch Improvement which I have had the honour of preparing, I tried to . . . obtain a dignity and unity to the whole by making the Arch the centre of the design. I was fully aware that, on account of my want of technical training, the plans would require amendment. I cannot help expressing regret that in such amendments as the London County Council felt it necessary to make, they found it impractical to act on the principle above mentioned.' Mr. Nor-

man Shaw, in a personal letter, wrote, 'The existing work is a poor, ragged edition of what you would have desired it to be, and what it might have been. We shall do no good till these improvements are controlled by people who really understand the thing—as the French do, either a small committee of trained experts, or better still a *wise* despot—he must be wise! All these fiddle-faddle compromises represent a wretched way of going to work.' *Punch* expressed its view succinctly when it referred to Mr. F. W. Speaight as 'the famous improver of the Marble Arch, which is now no longer a foolish and antiquated gateway to the Park, but a noble isolated obstacle in the middle of Oxford Street, carrying out superbly its new duties as a complicator of the traffic.'

The scheme on which the LCC is now at work, 3, will surround the arch with a large area of grass and move the road on its southern and western sides farther away from it. The present heavy railings and gateway into the park will be removed, and the grass area around the arch will seem an extension of the park itself. This will re-create the effect, if not the reality, of the arch serving a functional purpose as a state entrance to Hyde Park, and thus reproduce the situation before the 1908 alterations. Mr. Speaight's conception of providing 'a great Piazza' for London would therefore seem to have been abandoned. But, in truth, the 'dignity and unity' that he sought to introduce in this spot was abandoned when his original plans were trimmed, and his ambitious, if perhaps somewhat grandiose, Crescent of Peace became no more than a prosaic traffic roundabout. I am not sure if my father would have welcomed the new plan unreservedly, with its informal and asymmetrical layout; he was enamoured of a somewhat massive symmetry, based on classical continental examples. But the new scheme does give a measure of repose and dignity to Nash's arch; it does make it the principal feature of a landscape design; and since these were the objects that my father tried to attain in 1905, I believe that he would give the present proposals his blessing.

George Speaight

LANDSCAPE

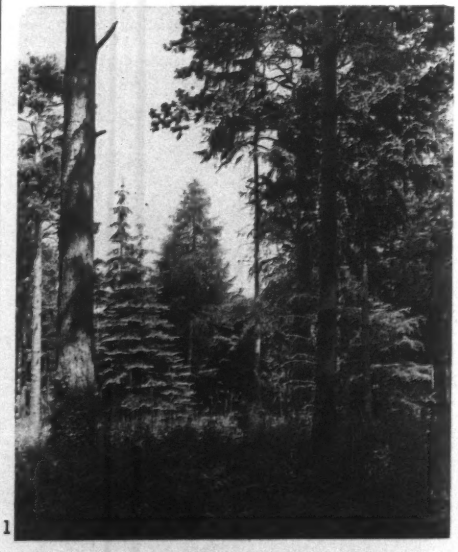
'UNTIDY' FORESTRY

Straight lines . . . soulless regimentation . . . dark trees all exactly alike . . . impudent little spruce goose-stepping across the fells. Such are the familiar popular objections to modern forestry in England. They are made in good faith, although anyone who has actually worked at forestry (or even at kitchen-gardening) must know that there are sound practical reasons for straight lines and 'regimentation.'

But there is also another kind of forestry, another silvicultural system, which is feasible in some places. And it is now winning increasing favour with foresters and academic teachers of forestry. As yet, it has no generally accepted popular name. Sometimes it may be called irregular forestry or perhaps even 'untidy' forestry (in contrast to the over-tidiness objected to in most modern forestry).

In truth this 'other' forestry with a more natural look consists of improved versions of the old German *Dauerwald* (perpetual wood). The essential bases are the same. Trees of different species and different ages are grown together in what foresters call intimate mixture. There is no clear-felling, but individual trees are taken out either as they come to maturity, or where there is need to make space for others growing up. The main factor, determining how much should be felled in any one year, is how much growth is being achieved; that is, how much new timber was made the year before.

1, *oak, Scots pine, larch and* Abies grandis (*silver fir*). 2, *Douglas fir and larch.*



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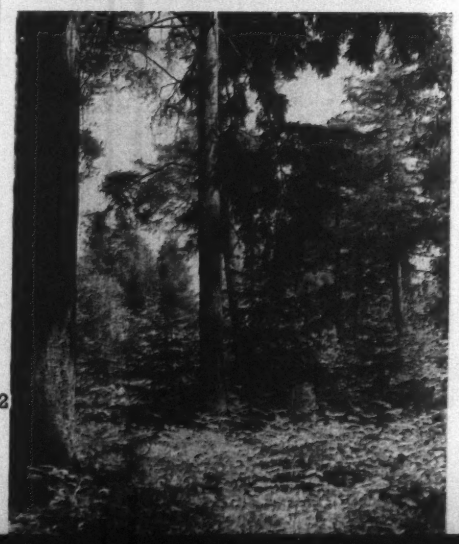

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Regeneration or succession is (at least in theory and partly in practice) by seed falling from parent trees. The resultant mixed woodland tends to be more healthy or resistant to diseases than even-aged single-species plantations, and also less susceptible to wind-damage. All so delightfully simple and natural that any fool, it might be thought, could manage woods in this way—without that jargon-talk of silvicultural system.

In fact, one of the objections to this kind of forestry is that it requires, for success, great skill and a tradition which we still lack in this country. (The come-back in argument with a forester is: 'You say it needs skill. That's not an objection but surely a welcome challenge. Here's where you come in!') Scientifically and silviculturally this irregular, mixed, selection system of forestry is based on exhaustive and detailed knowledge of any woodland, careful and frequent measurement of the growing trees, and a sensitive and understanding judgment.

As a hint of the difficulties: there is in all England just one estate famous for the practice of this attractive system,* and many foresters travel long distances to West Norfolk to see and hear how it works. (Of course, there are also other estates where something of the kind is attempted, or is now being tentatively adopted.)

This 'other' forestry is more keenly taught and widely practised in Switzerland and parts of France, where permanent tree cover is required. Especially in mountainous and other 'protection forests' where the checking of avalanches, soil erosion and run-off (flood) are functions of forestry almost as important as the yield of timber. And it is in many places the recognized answer where amenity considerations are greatly valued.

The pressure for more irregular or untidy forestry in England is bound to increase, especially with the growth of amenity values, and such arguments as 'Woods are more important to look at, for beauty and their place in the landscape, than for what they produce' and 'Soon we shan't need any pitprops—much less a vast reserve for an allegedly possible three-year-long war.'

Two or three fundamental difficulties deserve mention and should be appreciated. First, there must be no swarms of rabbits—which love to eat seedling and other very young trees. The major reason why trees have regenerated naturally (sprung up from fallen seed) so much better on the Continent than in England is because their forests have not had the huge rabbit population which we had—at least till five or six years ago. Again, in this kind of

* New Wood, Weasenham, Norfolk, owned and managed by Mr. R. L. Coke, a nephew of the Earl of Leicester, owner of Holkham.

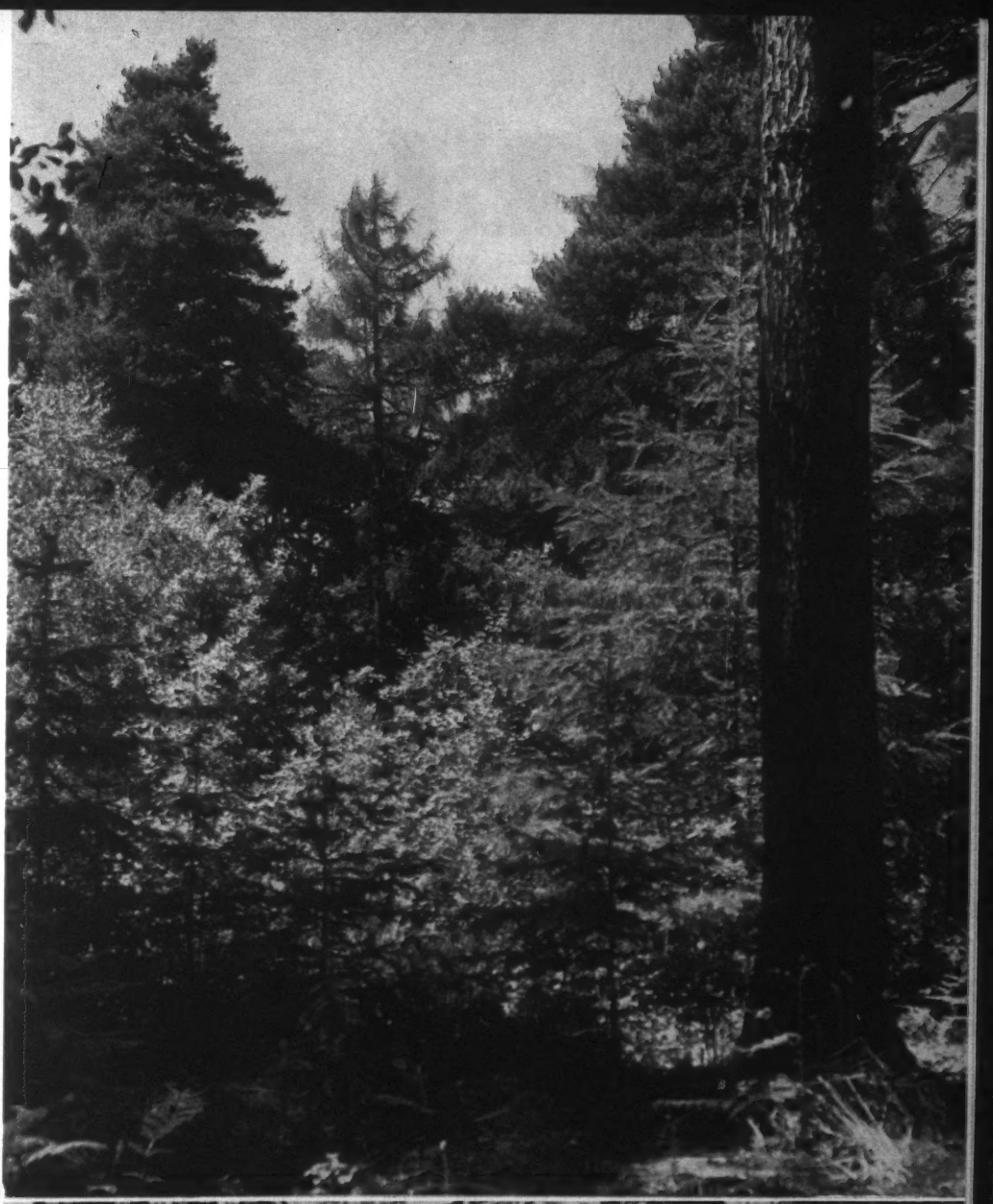
semi-natural mixed wood the shade-bearing species (beech, silver fir, spruce) always have a great advantage, in regeneration, over the light-demanders (oak, ash, larch). The tendency is for a mixed perpetual forest gradually to lose the light-demanders and to become a forest of shade-bearers. Indeed, it would be easy for a whole mixed forest to be rapidly (say, within a hundred years) transformed by too much 'nature' into a pure hemlock-spruce (*Tsuga*) forest. For that beautiful shade-bearing North American species is perhaps the most abundantly fertile of all trees at natural regeneration.

Again, for success, the skill, sensitivity and judgment postulated at management levels must also be displayed by the humbler ranks. For example, even the felling and extraction of large trees, with minimum damage to younger trees growing close in the mixture, requires standards of care and skill quite different from those normally displayed by contract-fellers and tractor-drivers working today in English woods.

The ideas of this 'other' forestry are not applicable everywhere. Not even the keenest and most skilful Swiss forester could convert a modern 'pitprop plantation' of our State forests into any kind of popularly-beautiful *Dauerwald* within a few years. Nor should the Forestry Commission be blamed for the position. In very many places they were given, forty or thirty years ago, bare land (probably wretchedly poor) and told to provide, as fast as they could, the largest possible store of pitprops against an 'emergency' —*alias* future war. And they did an excellent job.

But there is also in England a great acreage of much older woodland, still almost entirely in private ownership and occupying better land than the new State forests. Here the teaching of the less 'tidy' Swiss and French forestry could be followed. So long ago as 1928 the Professor of Forestry at Oxford (the late Dr. R. S. Troup, FRS, who was himself emphatically not an enthusiast for *Dauerwald* ideas) wrote: 'If the rabbit scourge were eliminated and the woodlands were brought into a better condition, there would be no reason, in so far as soil, climate and other factors are concerned, why the silvicultural systems of continental Europe should not be practised in Great Britain with results far more satisfactory from the economic point of view than those attained under the methods so frequently practised hitherto.'

J. D. U. Ward



3

4

3, larch in foreground and larch, Scots pine and Douglas fir in background. 4, Thuya, Douglas fir and Scots pine in foreground; young larch and Tsuga in background.

SKILL

THERMAL COMFORT AND BUILDING STRUCTURE

2: Structure, the Moderator of Climate

Last month Alexander Hardy pointed out that the quantity of heat in a building and the amount of thermal insulation represent only one aspect of comfort. In his second and concluding article he considers to what extent the choice of building materials can make the production of comfort conditions either relatively cheap or costly, if not impossible.

Before considering the relationship between clothing insulation, building insulation and the external climate it is important to realise that the problem is to control the loss of heat from the human body in relation to the external climatic conditions and not, as is usually stated, how to heat the building to certain arbitrary physical standards.

It would be physically possible to provide so much thermal insulation in the enclosing materials that no artificial heating would be necessary, but since the internal conditions would then vary directly as the external conditions and it would not be possible to control these in relation to the number or activity of the occupants, this is not a practical approach. Instead some form of easily controlled artificial heating is used as this is the most simple way to control the internal climate and so maintain comfort under varying sets of conditions.

Thermal resistance and thermal capacity

When designing the thermal characteristics of a building it is important to divide these into two separate functions, thermal resistance and thermal capacity. Thermal resistance determines the rate of heat flow through the material from one face to the other and is not effected to any great extent by the temperature of the material itself within the ranges experienced in this country. It is however effected by moisture content and seasonal variations of up to 20 per cent can take place in brickwork due to rainwater absorption. The selection of the materials making up the external enclosure of a building has therefore to be considered from the aspect of achieving an economic 'U' value (Total air to air thermal resistance) in relation to the initial installation cost of the heating and cooling plant and running cost, having already considered the external-surface-area to enclosed-volume relationship at an early stage in the design.

It has already been stated that one of the factors controlling thermal comfort is the surface temperatures of the bounding surfaces of the enclosure. Decreasing 'U' values not only decrease heat transfer rate through the material, but also increase internal surface temperatures towards the internal air temperature, so approaching the ideal conditions. To-day the most important factor to be considered in the enclosing surfaces is the area of glazing in relation to solid wall area. Due to the high thermal transmittance of glass, the internal surface of this will be very close to external air temperature and therefore provide large areas of cold surfaces that will produce excessive heat loss by radiation from persons near to them; a process of heat transfer usually referred to as 'negative radiation' loss. In traditional load bearing wall construction the glass areas were only a proportion of the solid areas, whereas to-day the glass area often exceeds the solid area, therefore a greater advantage is to be gained by the use of double glazing rather than by increasing insulation values of the smaller solid wall area. It should be noted, however that in buildings occupied during the hours of darkness, heavy curtains from floor to ceiling over window areas will give a similar result, that of raising the internal surface temperature (see Table). There are therefore thermal comfort advantages to be gained by keeping glazing areas to a minimum on façades that receive no direct sunlight and also in avoiding excessive glass areas on those that receive a maximum of sunlight penetration.

Table of Internal Wall Surface Temperatures for different 'U' Values. Ext. Temp. 30 deg. F Int. 65 deg. F.

'U' Value.	Internal temp. (degrees)
0.9	42.8 F
0.8	45.5 F
0.7	48.0 F
0.6	50.3 F
0.5	52.8 F
0.4	55.2 F
0.3	57.6 F
0.2	60.1 F
0.1	62.6 F

Thermal capacity, a property of complete enclosing or subdividing constructions, is the total of the volumetric specific heat of the materials used. (Density in lbs. per cu. ft. by Specific Heat in B.t.u.s. per lb. deg. F.). This physical characteristic therefore varies directly with changes in density, whereas Thermal Resistance varies inversely with changes in density. So that when selecting materials for external walls only in relation to their thermal resistance value, those with low thermal capacities are usually chosen. How does the thermal capacity of an enclosure effect internal comfort conditions?

To begin, the specific heat of a material is the quantity of heat required to raise one lb. of the material one degree F., therefore the higher the volumetric specific heat of the material the longer it will take to heat up, assuming a constant rate of heat input, and also a greater amount of heat will be stored within the material and will be discharged when cooling takes place. This factor has two effects on internal thermal comfort. First by controlling the rate of heat-up and cooling down of the internal surfaces in relation to internal heating and second by reducing the effect of external temperature changes on the internal surface, by decreasing the temperature range and by delaying its effect. Traditional load-bearing wall buildings of high thermal capacity enclosure are therefore not effected to any great extent by diurnal temperature changes.

If frame buildings with lightweight non-loadbearing external panel walls and large areas of glazing are considered from this aspect, then, although the thermal resistance of the enclosing materials may be high, the thermal capacity would be low and external temperature changes would be quickly transmitted to the internal surfaces, so altering the internal surface temperatures with little time delay and with only a small reduction in temperature range. Also as glass is transparent to high frequency solar radiation, but almost opaque to low frequency reradiated heat, the heat gained is trapped within the interior. Therefore there is an increased risk of overheating especially if it is not possible to overcome this by a greatly increased rate of ventilation. High thermal capacity enclosures modify the external climate to a maximum and thermal comfort conditions can be achieved with a simple heating system as the demands for heat are fairly constant. Low thermal capacity enclosures modify the external climate to a minimum and thermal comfort conditions can only be achieved if the heating plant is able to cope with continuously varying demands for heat and may make a cooling plant essential.

Flat roofs require to be carefully designed if both overheating in summer and excessive heat loss in winter are to be avoided. Again, although it is relatively simple to attain a satisfactory thermal resistance, thermal capacity is a very important factor as the roof of a building is at right angles to the sky and therefore receives a maximum of solar radiation as well as a maximum heat loss by night radiation. Therefore if the roof construction has a low thermal capacity, external conditions will quickly affect internal surfaces and high ceiling temperatures producing excessive overhead radiation are common in summer and in winter the negative radiation to the night sky can soon affect ceiling temperatures. External surface temperatures of up to 120 deg. F. and as low as 10 deg. below zero night air temperature have been recorded in this country. If such uncomfortable surface temperatures are to be avoided, then sufficient thermal capacity will have to be provided in the roof to ensure a time lag of at least three hours and a reduction of the effect of this heat exchange so the maximum amount of the heat gained and lost takes place in the roof slab itself and does not increase or decrease ceiling surface temperatures.

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As the addition of thermal insulation to the underside of the roof slab would improve internal conditions, this is the usual treatment, but this also increases the temperature range of the slab itself, as less heat can be transferred to the space below, therefore if the slab is to be protected from excessive thermal expansion and contraction additional insulation will also have to be applied to its upper surface. Surface treatments to increase the reflectivity of the roof are also very advantageous.

External walls and roofs are not the only parts of the building that have to be considered from the point of the provision of thermal capacity; even if the building is of frame construction there is always a large area of high density concrete slab in the floor construction and sometimes also in sub-dividing walls. This mass of material, isolated from the external climatic conditions, acts as a heat accumulator, absorbing heat during the heating up period and discharging it during the cooling down. Such high thermal capacity internal surfaces, taking a considerable time to reach their stable temperature at the commencement of heating, have the effect of increasing the radiation loss from the occupants during this time. They also delay the temperature drop at the end of the heating period and so reduce the internal diurnal temperature range in relation to the external.

Although considerable attention has been paid to the thermal characteristics of the enclosing materials, these only constitute about one sixth of the area of the internal surfaces and although the external wall or roof is important for those located near to its internal surface, those persons within the building will be more effected by its internal construction. This characteristic of rate of heating up of surfaces has a marked effect on thermal comfort in relation to the period of occupation of the building, also the duration of the heating up time.

In continuously occupied buildings, high internal thermal capacity has no disadvantage except that it is difficult to raise or lower internal temperatures quickly. In intermittently occupied buildings it would be more economic if the heating period could be reduced to be as near as possible to that of the period of occupation. High thermal capacity internal construction acts as a brake on achieving thermal comfort with moderate air temperatures, as for a given equivalent temperature, high air temperatures would be necessary to overcome the increased heat loss from the occupants to the cold internal surfaces. As a considerable number of building types are in this category, what steps can be taken to overcome this disadvantage ?

Materials of low density are good thermal insulators and have only small thermal capacity, therefore such materials will heat up and cool down rapidly, particularly if the amount of material is small and it is isolated from denser constructional backing material. This characteristic of rate of temperature change is known as the diffusivity or temperature conductivity and is found by dividing the thermal conductivity (B.t.u.s. in. sq. ft. hr. deg. F.) by twelve times the Volumetric Specific Heat (Density: lb. cu. ft. by Specific Heat: B.t.u.s. lb. deg. F.). The lower the temperature conductivity of the material the slower the rate of temperature change through the material and therefore the faster the rate of surface temperature change.

The effect of the time taken for surface temperatures to reach a steady state is startling; the time lag between commencement of heating and the attainment of a stable surface temperature with a heat input twice that required to maintain that steady state would be six hours for a 9 inch thick brick wall and for the same wall lined with $\frac{3}{4}$ in. of fibre insulation board would be $7\frac{1}{2}$ minutes, if this board was on battens so as to give thermal separation from the background. In addition the final surface temperature attained would be higher. The lining of the walls and ceilings of high thermal capacity construction has very decided advantages for intermittently occupied and heated buildings.

The rate of heat lost by conduction through the feet is a decisive factor in attaining thermal comfort conditions. The rate at which this heat is lost is in relation to the thermal capacity of the floor itself. Although solid concrete ground floors are used in preference to suspended timber floors, as they have a better thermal insulation value, the high specific heat of the concrete extracts large amounts of heat from the feet for small temperature differences, whereas a timber floor of low thermal capacity extracts little heat for the same temperature gradient, subjectively the concrete floor feels colder than the timber floor even if they are at the same surface temperature. It is essential that concrete floors are insulated on their upper surfaces to overcome this. The thickness of an insulating floor finish is also important, for example thin sheet or tile material would have only a short time effect, as its thickness would be unable to overcome the extraction of heat by the base concrete from the underside of the finish once this has penetrated the thin insulating layer. Thick finishes of highly insulating material are advised or separation of the floor finish from the concrete by battens. This would not be essential in multi-storied buildings, once the intermediate concrete floors had attained a steady state temperature, but may apply if the building was intermittently heated.

Conclusions

The emphasis on thermal resistance that exists in present day practice, due to consideration of the economics of heating, can lead to a considerable reduction in thermal comfort standards. There is no doubt that an attainment of a high degree of thermal comfort is a sound investment as it is conducive to more pleasant conditions that lead to increased work output and a reduced rate of labour turnover. It is the architect who determines the factors that can achieve such conditions by a careful consideration of the thermal characteristic of the building in relation to the external climate and the internal pattern of occupancy.

Summing up, the following points are important: the reduction of external window areas to an acceptable minimum on façades receiving no direct sunlight, the use of double glazing where large glazed areas are essential, the attainment of at least a 2-hour time lag in lightweight external panel walls that receive a high degree of solar radiation, to overcome overheating; the external screening of sunlight from large glazed areas, consideration of the internal thermal capacity of the building in relation to its occupancy pattern, the use of lining material of low temperature conductivity in intermittently heated buildings and treatment of high thermal capacity floors to overcome thermal discomfort.

Having considered these aspects of building design and also that of thermal insulation itself, the architect will have arrived at a balance between providing a building that will modify the external climate to a maximum extent and attain a high degree of thermal comfort for its occupants. In addition the stage will have been set for the heating engineer to design an economic heating plant.

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THE INDUSTRY

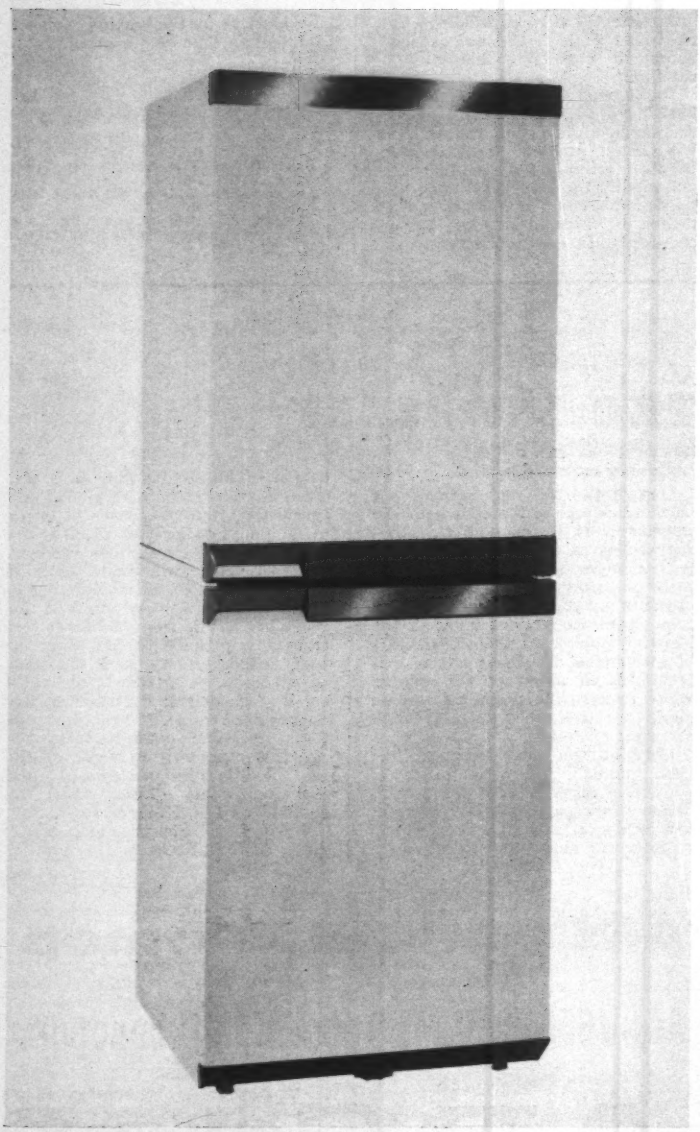
Lettering on buildings

One of the sad outcomes of our mechanized age is the eclipse of the signwriter. It is not so much that signwriting as a trade is dying but that signwriting as an art appears to be going out, and this despite the crusades by AR and the occasional filips from campaigns such as the Norwich facelift. If the substitution of mechanical for hand lettering is inevitable in many of the spheres which concern the architect, then we ought to demand a suitably high standard of design.

Letraset, who have for some time been producing a wide range of attractive display types for presentation work, are offering Letraset kits for use on buildings. The problem of lettering names or notices on a couple of hundred doors in a new office block is at once simplified and speeded up and the result, in terms of design, is at least as good as the craftsman/signwriter could produce. As most people will know, Letraset is a transfer method of lettering in which the only tools required for removing letters from the sheet and transferring them to the door or wall surface are a stencil (or other sharp) knife, an artist's brush and a small piece of silk stretched tightly on a wooden frame. The range of type faces available extends from the simplest sans serif to some of the more exotic display faces, 1, and includes twenty display faces designed by F. H. K. Henrion.

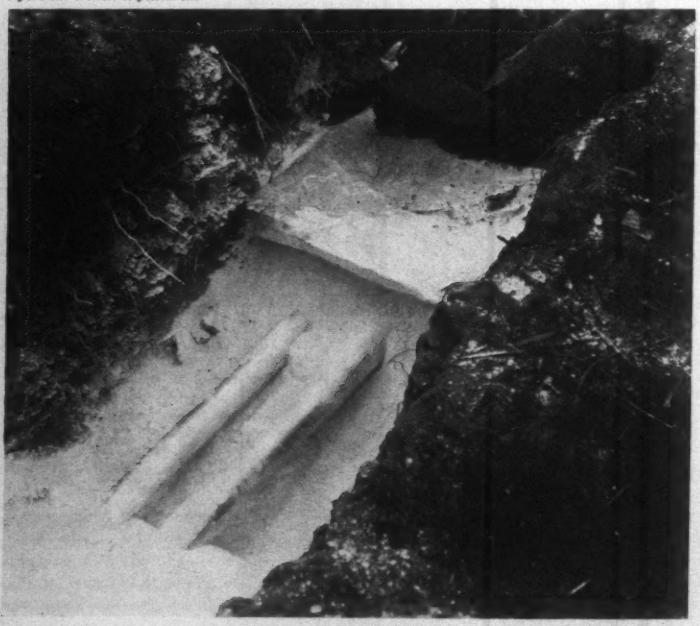
Letraset Ltd., Plough Place, Fetter Lane, London, E.C.4.

1, *a selection of Letraset transfer alphabets. Top to bottom, Venus Bold Extended; Sans Condensed; Egyptian Expanded; Consort; Roman Compressed; Antique No. 3; Style, one of the faces designed by F. H. K. Henrion.*



2, *the new Kenwood refrigerator on the freezer unit.*

3, *Protexulate pipe insulation, which is poured over pipes and then covered with the empty bags before the trench is filled in.*



Refrigerator and freezer

A new refrigerator and a new freezer produced by Kenwoods reflect a sound design approach. The two units, 2, have been designed to be used together (although, of course, they can be bought separately) and this has been expressed visually by the almost identical external appearance. Each unit is finished in white and is 36 in. high including optional working surface table top or 34 in. high without, by 24 in. wide by 24 in. deep. The units can be placed one on top of the other as in the illustration or side by side. In the latter case they can be covered either with a single table top or a separate table top on each. Both refrigerator and freezer are mounted on two fixed rollers at the back and two adjustable feet at the front. A third roller is fixed centrally at the front and this can be lowered to lift the unit off its feet for moving. The door can be placed on either side and opens within the width of the cabinet. It swings to 110 degrees and is kept shut by means of a magnetic seal made of a p.v.c. compound containing magnetized iron oxide.

The refrigerator (called model HR52A) has two full-width plastic-coated wire shelves, a third half-shelf and a large vegetable container on the floor with shelf space alongside which will take five pint bottles of milk. Net shelf area, including that on the door, is 9.42 sq. ft. The inside of the door has shelving for eggs, cartons and bottles. Frozen food storage capacity is 0.63 cu. ft. and the ice making capacity 30 cubes per tray per freezing. The cabinet is illuminated by an automatic light. Total storage volume is 5.3 cu. ft. The refrigerator is available in four basic models, a right and a left hand hinged door model operating without a transformer on single phase electric power supply of 210/250 volts, and a right or a left hand hinged door model operating on 115 volts. Price is 70 guineas with table top, 67 guineas without.

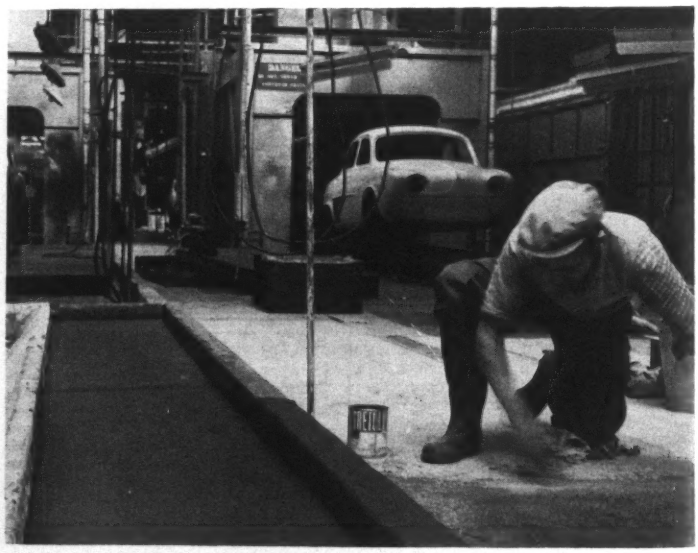
The freezer (KF42A) has a floor area of 4 sq. ft. Price is 76 guineas with table top, 73 guineas without.
Kenwood Manufacturing (Woking) Limited, Old Woking, Surrey.

Pipe insulation

'Protexulate' is the name given to an inert mineral which, in powder form, is marketed as an insulation for pipes buried in the ground. The powder, which comes on to the site in multi-ply paper bags, is poured around the pipes in the trench, 3, and the empty bags placed over them before the trench is backfilled. 'Protexulate' is claimed to be permanently waterproof and to have a k value of only 0.912 (based on tests conducted at Liége University). Another characteristic claimed for this material is non-inflammability. The manufacturers say that, in fact, it can be used as a fire extinguisher. It can be stored indefinitely under quite adverse conditions and has the advantage that it can be used again should re-siting of the pipes be necessary. The results of Air Ministry tests are pending and other Ministries have shown interest in this material which comes to this country from the Continent.
Croxton and Garry Limited, 16/18 High Street, Kingston-on-Thames, Surrey.

Epoxy resin composition floor

A composition floor topping, which the manufacturers describe as 'a special formulation of epoxy resins and special aggregates,' has been developed for use in chemical plants, laboratories and heavy industrial floors. The topping is called Tretol Epiflor and is oil and chemical-resistant. In the illustration, 4, a finished section of floor can be seen alongside an area which a workman is priming. It is poured on in liquid form to a thickness of $\frac{1}{8}$ in., tamped and floated to a smooth non-slip finish and, under normal conditions, cures sufficiently to bear foot traffic after 24 hours and trucking after 3 to 7 days. It is intended to be used also for patching damaged areas of concrete floors. Colours are red, green, yellow, buff and natural shades and price is 31s. 6d. to 37s. 6d. per square yard, depending on quantity, delivery from stock. Technical details are available from the manufacturers.
Tretol Ltd., The Hyde, London, N.W.9.



4, *workman priming for Tretol Epiflor alongside a completed section.*

Passenger conveyors

The installation of a moving pavement at Bank Underground Station in London towards the end of last year drew attention to this peculiar form of transport forecast by H. G. Wells over 60 years ago and already used in America for some years now. Undoubtedly it will make an impact. The crisis in motor traffic in our cities, bringing with it bold ideas for

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Bringing a building to life

A modern building is a living organism. It must breathe for its occupants, and ventilation or air conditioning systems are its lungs. How it breathes; the number of air changes, the amount of heating or cooling and humidity of the air depends on many factors; its function, number of occupants, aspect and seasonal changes. These must be calculated, and plant, fans, ducting and outlets designed at an early stage. Then, as the building grows, the installation proceeds, at the pre-arranged pace.

It's a problem of design, teamwork and timing, needing organisation and experience. In fact, if it's a big job, it's more than likely that the whole thing was left in the hands of Haden — capable hands, thoroughly versed in the problems of bringing a building to life.

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segregating motor and pedestrian must open up possibilities for this type of transport. Sandvik Steel Band Conveyors Ltd., who have for some years now been manufacturing cold rolled tempered steel conveyor bands and rubber-covered steel conveyor bands, have turned their attention to the passenger conveyor problem. The type of conveyor bands recommended by them for passenger traffic have, in fact, been in production for ten years, so lack of suitable equipment should not be the problem in developing the idea of the passenger conveyor. Sandvik's associated company in Australia is at present installing the longest passenger conveyor in the world. It comprises two conveyors each 28 in. wide (which can be reversed to carry peak hour traffic in either direction) installed in a 700 ft. long tunnel carrying passengers from an underground parking station into Sydney's central shopping area adjacent to Hyde Park. It can handle up to 6,000 people per hour.

Sandvik Steel Band Conveyors Ltd., Dawlish Road Works, Selly Oak, Birmingham 29.

5, *electrical floor warming cables being laid in a hardwood floor.*

Electrical floor warming

The use of electrical floor warming, in which the cables are embedded in the screed on top of a solid floor, has been steadily increasing during recent years. Most systems are designed to provide adequate background heating based on the storage principle in which advantage is taken of off-peak rates.

The Elfido system is one in which low temperature electrically heated stranded steel cables are fixed between the tongue and groove of adjacent strips in a hardwood floor, 5. This method is not a storage one, its virtue being quick response which means flexibility for the user. The system, therefore, is particularly suitable for buildings with intermittent use, such as churches, as the pre-heating time is between ¾ and 2 hours, depending on the thermal insulation of the building and the outside temperature.

An installation comprises not only the heating cables and controls but also insulation (fibreglass on aluminium foil laid between the joists) and the laying and finishing of the hardwood floor itself. One advantage of the Elfido system would appear to be that it can be installed in existing buildings with timber floors.

The company also provides a design service and, if this is required, information should be given on supply of electricity and particulars of site, together with copies of the ⅛ in. or ¼ in. plans and elevations with notes on construction and finishes.

The capital cost of a typical installation is in the region of 90s. per sq. yd. for heating, flooring and thermal insulation and, as a guide to running costs, the manufacturers say that 100 sq. ft. of flooring costs 1d. per hour to raise the temperature by 30 deg. F.

Wm. Thornton and Sons Limited, Wellington Road, Liverpool, 8.

Wall tiles

A new range of 4 in. by 4 in. wall tiles, designed by Michael Caddy, has recently been introduced to the market. The tiles are made in a material called 'Dimex' which is the name given to a type of porcelain body the basic constituents of which are quartz, Swedish felspar and selected grades of China clay. The resultant body is moulded into the required shape and fired to a temperature far higher than that for normal pottery. The manufacturers claim that the result is an immensely tough, craze-proof, frost-proof tile which is as suitable for external as for internal use.

Time, of course, is the only real test of this. But, whatever its physical properties, the standard of design of the range of tiles is quite good and should give architects plenty of scope. The designer has evolved three 'textured' patterns—ridged, 6, stepped and dished and there are

[continued on page 290

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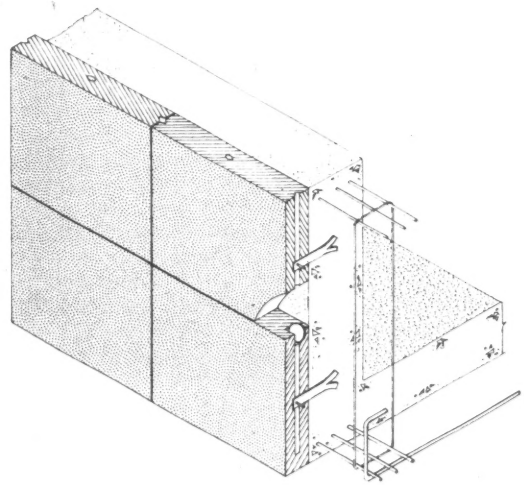
The rapid erection of this building was largely facilitated by the use of the Portland Stone facings as permanent formwork to the R. C. structure.

This new technique was developed in association with the Architects, Messrs. Trehearne & Norman Preston & Partners.



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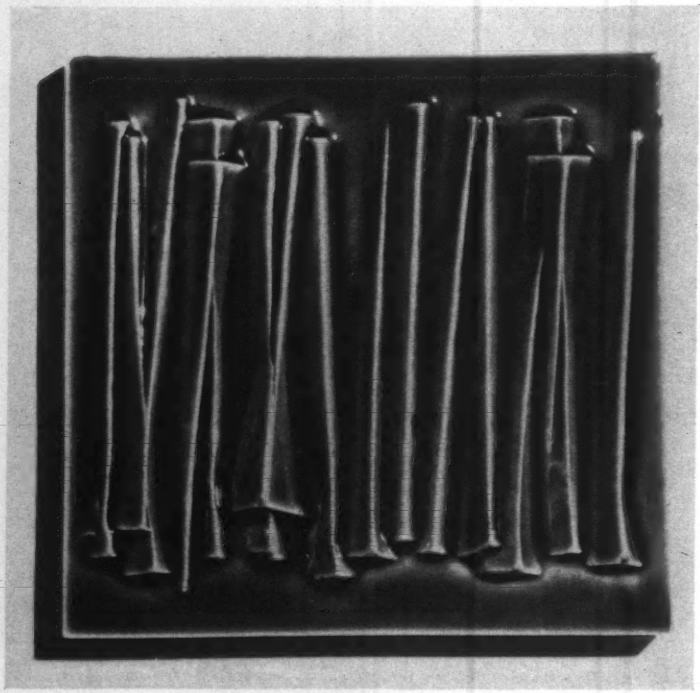
eight colours, almost all of which are quite pleasing. They comprise fawn, dark grey, green, purple, blue, light grey, yellow and brown and, in addition, black and white. Plain tiles (i.e. not textured) are also available. Price is 115s. per sq. yd. for textured tiles and 107s. for plain.
Wade Architectural Ceramics, Burslem, Stoke-on-Trent, Staffordshire.

Tube in strip

The Metals Division of ICI and Imperial Aluminium Co. Ltd., have developed a new product which they call 'Tube-in-Strip.' This is precisely what it is, consisting of tubular passageways integrally formed within a sheet or strip of non-ferrous metal.

Before casting the slab, metal rods of an inert material are located in the mould and the metal poured around them. These rods remain in the slab during rolling and extend to the full length of the strip. The thickness of the rods is reduced with the thickness of the slabs during rolling. The resultant finished strip of metal, which may be as much as 500 ft. long, contains a number of integral laminations which are generally less than one-thousandth of an inch thick. Tubes of circular, oval or similar cross section are produced by applying internal pressure to each lamination. Tubes can be of different sizes and at any desired spacing in the same strip; and in each case the thickness of the tube wall is generally half the thickness of the web or fin connecting the tubes. It is also possible to offset the tube passageways from the thickness centre line enabling inflation to occur on one side, the other side remaining almost flat. 'Tube-in-strip' may be bent after inflation in a direction normal to the tubes, provided the bend radius is at least as great as would be employed with drawn tubes of similar dimensions.

Within the building industry this material has considerable possibilities for the imaginative designer. Cladding panels, or stiffened panels for structural use, water heaters, solar heaters and radiant panels are all possible applications.
*Imperial Chemical Industries Ltd. and Imperial Aluminium Co. Ltd., Millbank, London, S.W.*1.



6, *ridged textured wall tile designed by Michael Caddy.*

CONTRACTORS etc

Office building, Holborn, London. *Architects:* Trehearne and Norman, Preston and Partners. *General contractor:* Tersons Ltd. *Sub-contractors: Wood block floors:* Acme Flooring Co. *Ironmongery:* G. & S. Allgood. *False ceilings:* Anderson Construction Co. *Access covers:* Broads Manufacturing Co. *Kitchen fittings:* Built-in Fixtures Ltd. *Neon signs:* Claude-General Neon Lights Ltd. *Entrance hall screens and doors:* T. B. Colman & Sons Ltd. *Cill line convectors:* Copperad Ltd. *Metal windows:* Crittall Manufacturing Co. *Roller shutters:* Dennison, Kett & Co. *Folding doors:* Esavian Ltd. *Balustrading and railings:* S. W. Farmer & Sons Ltd. *W.c. partitions:* Flexo Plywood Industries Ltd. *Cellulosing:* R. Fox & Sons. *Cobble paving and garden:* Gavin Jones Nurseries Ltd. *Asphalt roofing:* General Asphalte Co. *Lightning conductors:* J. W. Gray & Son Ltd. *Louvres:* Greenwood Airvac Ltd. *Sprinkler installation:* Independent Sprinklers Ltd. *Sewer in Hand Court:* Edward A. Jackson Ltd. *Pavement and roof lights:* Lenscrete Ltd. *Letters for lavatory doors:* Lettering Centre. *Mosaic and terrazzo:* Alan Milne Ltd. *Cement glaze:* Modern Surfaces Ltd. *Entrance hall balcony balustrade:* Morris Singer & Co. *Insulated glass panels:* John N. Newton & Sons. *Lift installation:* Otis Elevator Co. *Travelling cradle supports:* Palmers Travelling Cradles Ltd. *Hosereels:* Pyrene Co. *Electrical installation:* Rashleigh Phipps & Co. *Rubber flooring:* Runnymede Rubber Co. *Plumbing and drainage:* Arthur Scull & Sons Ltd. *'Vertilex' wall tiling:* Semtex Ltd. *Slate copings and facings:* Setchell & Sons Ltd. *Sliding door gear:* Silent Gliding Doors Ltd. *Wall and floor tiling:* W. B. Simpson & Sons Ltd. *Cold water service:* Smeaton & Sons Ltd. *'Eternit' cills:* G. R. Speaker & Co. *Exposed aggregate panels:* Stent Precast Concrete Ltd. *Sanitary fittings:* Stitson Sanitary Fittings Ltd. *Gates:* Strawford Barnard & Co. *Electric clocks:* Synchronome Ltd. *'Gresiflex' flooring:* Talbex Ltd. *Incinerators:* Wands-

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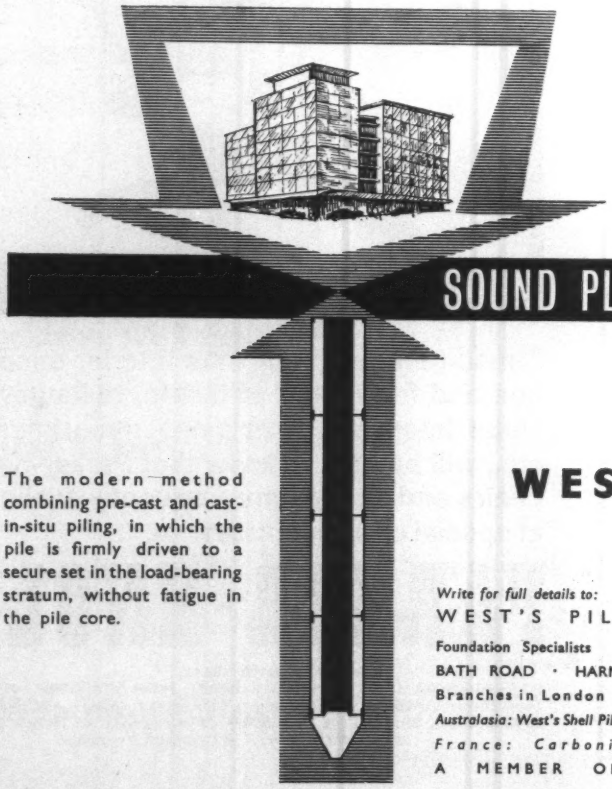

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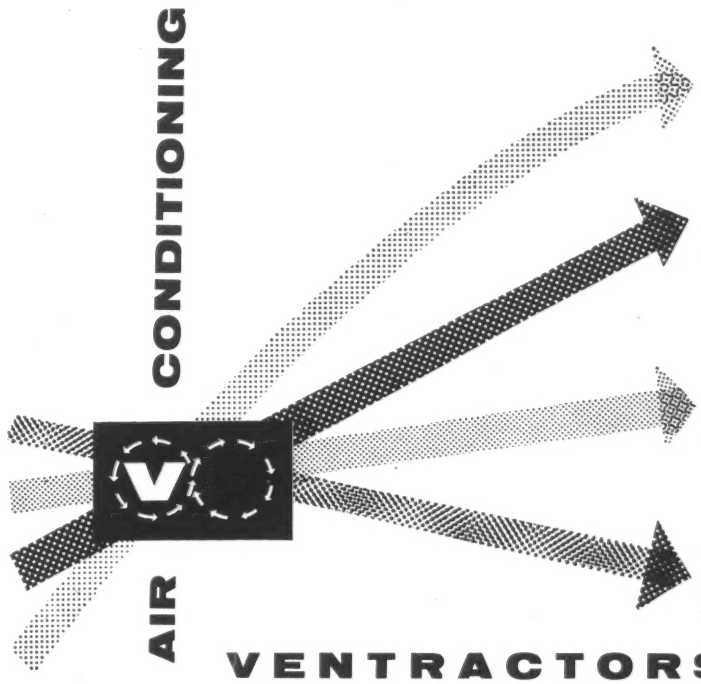

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